

Working Paper 441

FINANCIAL CRISIS AND KERALA ECONOMY

M. Parameswaran

January 2011

Working Papers can be downloaded from the
Centre's website (www.cds.edu)

FINANCIAL CRISIS AND KERALA ECONOMY

M. Parameswaran

January 2011

Initial ideas and motivation for this work came from my involvement in a team that prepared a report on the probable impact of the financial crisis on Kerala economy for the government of Kerala. I am thankful to all other members of the team. I also thank all the seminar participants at CDS as well as the anonymous referee for their comments and suggestions. However, the errors and omissions, if any, in this paper are my sole responsibility.

ABSTRACT

The study examines the trends in export, foreign remittances, credit availability, and tourism in the context of Kerala economy against the background of global financial crisis and subsequent global recession. Kerala is considered to be highly vulnerable to a crisis like this because of its greater integration with the rest of the world. The study shows that there are some reasons to believe that the financial crisis affected Kerala economy adversely by slowing down export and tourism in the year 2008-09 which witnessed the worst impact of the crisis.

JEL Classification: E32, F15, F44

Key Words: Global Financial Crisis, India, Kerala, export,

1 Introduction

This paper examines the transmission of worldwide economic recession sparked by the financial crisis in developed countries to the economy of Kerala. The economic recession, which gripped almost all corners of the world and argued to be the deepest one since the Great Depression of the 1930s, added more number of people to poverty and under-nutrition (IMF, 2009; Friedman and Schady, 2009). The crisis spread from the countries of its origin to the rest of world through various channels of global economic integration, which include trade, finance, tourism and international migration and the resulting remittances to the home country.

Kerala's economy being highly integrated with the rest of the world through a number of channels is considered to be more vulnerable to a crisis like this. It has been argued in the literature that this integration with the rest of the world has a significant determining influence on the structure and pace of the state's economy (see: Isaac, Reddy, and Duaury, 1992; Balakrishnan, 1999; Harilal and Joseph, 2000; Kannan and Hari, 2002; Pushpangadan and Parameswaran, 2006). This study considers the impact of the crisis on the availability of credit, remittances from abroad, export, and tourist's arrival in the *context* of Kerala economy. Note that the study is examining the *behaviour* of the above mentioned channels in the context of Kerala against the background of global

financial crisis. It does not explicitly consider the impact of the crisis on other important dimensions like overall economic growth, employment and government finance because of the data unavailability¹. The study, however, sheds some light on the probable impact of the crisis on these dimensions also, allowing the reader to infer on the possible impact of the crisis.

The paper is organised in five sections, including the introduction. Next section discusses the genesis and global impact of the crisis and section 3 discusses the macroeconomic impacts in the context of India. Section 4 discusses the above mentioned channels in the *context* of Kerala economy and the last section concludes.

2 Genesis and Global Impact

Though the financial crisis had been triggered by the sub-prime crisis in the US, its deep causes can be traced to the gradual deregulation of the financial sector since 1970s in the US. The Great Depression of the 1930s generated a strong belief that unregulated financial markets are inherently unstable, subject to fraud and manipulation by insiders and capable of triggering severe economic crises. To protect the country from frequent financial crisis, the US instituted strict financial regulatory system that worked effectively through 1960s. However, economic and financial turbulence in the 1970s and early 1980s led to both a paradigm and policy regime shift. Efficient market theory and new classical macro theory became the theoretical basis for light regulation of the financial market. This was followed by radical deregulation pushed by financial institutions and justified by efficient financial market theory. After 1980, the accelerated financial deregulation was also accompanied by a number of financial innovations which in effect increased the complexity of the financial market. Overtime financial markets grew

1 Readers interested on the impact on employment at all India level may look at Kannan (2009).

ever larger relative to the non-financial economy, important financial products become more complex, opaque and illiquid and system wide leverage exploded (Crotty, 2009).

Deregulation of the financial sector found its culmination in the abolition of Glass-Steagall Act in 1999. Glass-Steagall Act, introduced in the mid 1930s, effectively separated investment and commercial banking activities. In this system commercial banks originated and retained all types of loans until they were repaid, motivating them to avoid excessively risky loans. With greater deregulation and repeal of the Glass-Steagall Act this traditional banking model underwent radical transformation and was replaced by the “Originate and Distribute (O&D) banking model”. In this model, to offload risk banks typically create ‘structured’ products often referred to as ‘mortgage backed securities (MBS)’ and ‘Collateralised Debt Obligations (CDOs)’.

The O&D model worked something like this. In the first step, big investment banks - like Bears and Sterns, Lehman Brothers, Merrill Lynch, Morgan Stanley or Goldman Sachs - purchase various types loans such as mortgages, corporate bonds, credit card receivables and other types of loans issued by the mortgage brokers and commercial banks. The next step is to pool these different portfolios and slice them into different tranches. These tranches are then sold to investor groups with varying appetite for risk. The safest tranche - known as the ‘super senior tranche’ - offers investors a (relatively) low interest rate, but it is the first to be paid out of the cash flows of the underlying portfolios. In contrast, the most junior tranche - referred to as the ‘equity tranche’ or ‘toxic waste’ will be paid only after all other tranches have been paid. The mezzanine tranches are between these extremes. The exact cut-off between the tranches are typically chosen to ensure a specific rating for each tranche. For example, the top tranches are constructed to receive a AAA rating from the rating agencies. The more senior tranches are then sold to various investors, while the toxic waste is usually (but not always)

held by the issuing bank, to ensure that it adequately monitors the loans. The lower level tranches are paid relatively high yield for the risk they take. The new system replaced the tightly regulated commercial bank based financial system with the lightly regulated capital market based globally integrated financial system.

The O&D model contributed to the lending boom and housing frenzy in the US. CDOs and asset backed securities freed up bank capital that would have been held up in reserves, thereby creating more loans that led to the rise in the absolute and relative size of the financial market. For instance, US credit market debt rose from 168 per cent of GDP in 1981 to over 350 per cent of GDP in 2007. The notional value of all derivative contracts rose from about three times of global GDP in 1999 to over 11 time of GDP in 2007 (Crotty, 2008, p.10).

O&D model also caused a deterioration in the lending standards. Quality of the borrowers reduced because of two reasons. First, because of the surge in loanable funds, good or prime borrowers eventually became scarce. Thus financial institutions turned to sub-prime borrowers. A sub-prime loan is a loan given to borrowers considered to be more risky or less likely to be able to repay their loan compared to high quality borrowers. Most of the sub-prime loans were channelled to the housing market because of the favourable conditions at that time. Rising real estate prices and low interest rate made it relatively easy for the sub-prime borrowers to make payments on their loans. The higher housing prices increased the value of the collateral, placing the borrowers at a comfortable position with respect to their loan payment². Second, the system is characterised by perverse incentive structure that encouraged taking excessive risk. As a substantial part of the risk would be born by other financial institutions, banks and mortgage brokers essentially faced only the “pipeline risk” of holding the loan for some

2 For a discussion of the extent of decline in lending standards, see Brunnermeier (2009, p.82).

months until the risk were passed on, so they had little incentive to assure the quality of the borrower and monitor the loan. Further, securitisation of loans generated huge fee income to the banks and mortgage brokers who sold the loans, investment banks who packaged the loans to securities, bankers and specialist institutions who serviced the securities, and rating agencies who gave their seal of approval. Since the fees once collected need not be returned if the security suffers large losses, everyone involved in the system has great incentive to maximise the flow of loans irrespective of their quality. For instance total fees from home loans and mortgage securitisation from 2003 to 2008 have been estimated at \$2 trillion (Crotty, 2009, p.565).³

During the post dot-com period, the US adopted a loose monetary policy in order to boost consumption and investment. The low real and nominal interest rate regime, as one could expect, led to strong gains in asset prices, particularly of housing and real estate, providing further stimulus to consumption and investment through wealth effects. However, as inflation started creeping up beginning 2004, the US Federal Reserve started to withdraw monetary accommodation. With interest rates beginning to moving up, mortgage payments also started rising.

Tight monetary policy, which contained aggregate demand and output, depressed housing prices. Annual double digit increase in the US housing prices found to be unsustainable and came to a halt around the mid 2007, resulted in the bursting of the US housing bubble(see Figure 1). With low or negligible margin financing, there were greater incentive for the sub prime borrowers to default. With increased defaulting on home loans more and more houses came into the market

3 By 2006, structured finance issuance led Wall Street to record revenues and compensation levels. The same year, Moody's corporation reported that 44 per cent of its revenue came from rating structured financial products surpassing the 32 per cent of revenues from their traditional business of rating corporate bonds (Coval, Jurek, and Stafford, 2009, p.4-5)

further depressing the housing prices. Significant increase in the default rate in sub- prime mortgage led to losses to a whole set of securitised financial products such as mortgage-backed securities. Many of the new securitised financial products with layers of underlying assets were revealed to be far riskier than their credit ratings indicated. The drop in value of these assets dealt a blow to the balance sheets of many financial institutions, greatly eroding their credit worthiness. The doubtfulness on the credit worthiness of financial institutions brought inter-bank and inter-corporate lending into a virtual standstill and the situation developed itself into a full-fledged liquidity crisis, which in turn led to the collapse in equity market (Lin, 2008)⁴.

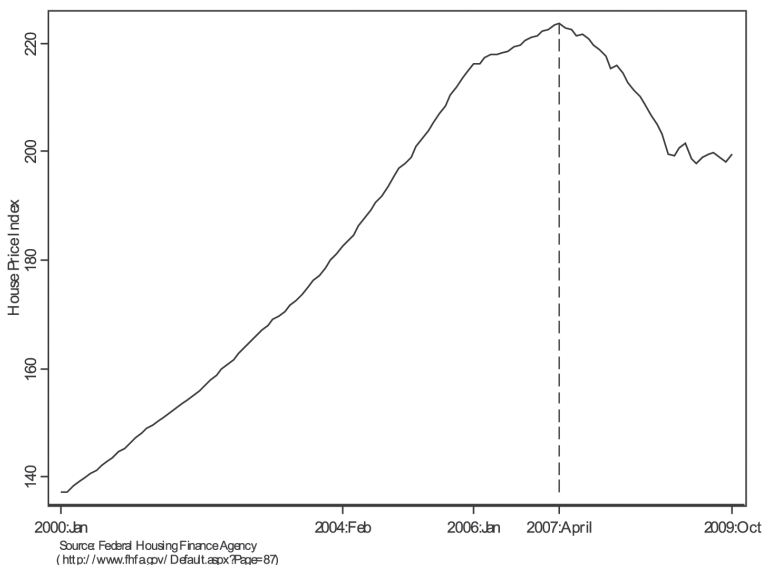


Figure 1: Monthly House Price Index in US

4 See Basu (2009) for a theoretical exposition of how a financial crisis of this kind can trigger a widespread liquidity crisis.

Since mortgage backed financial products were dispersed around the world, particularly in other developed countries, the crisis in the US developed itself into a global financial crisis. The housing price collapse and plunge in the stock market had taken its toll on the US household wealth. It has been estimated that about \$15 trillion (in 2008 dollars) were lost in the first 18 months of the financial crisis (Weller and Helburn, 2009).

The liquidity crisis and huge loss in the household wealth contributed to a recession in economic activities from both demand and supply side in US and other developed countries. The liquidity crisis made difficult for firms to get required credit for their production activities. Because of the bleak economic prospects, banks were extremely cautious in lending. The huge loss to the household wealth and far from rosy economic prospects made consumers cautious in spending, contributing to a reduction in demand. The financial crisis, thus, ultimately transformed itself into a real economic crisis, leading to slowdown in production, increase in unemployment, and reduction in the volume of world trade.

Table 1 presents the profile of the world economy in the context of global financial crisis. Find that all the countries suffered a decline in economic growth in 2008, and this decline was more severe in advanced countries. And for all the advanced countries, output growth rate was negative in 2009. Similarly, there was a reduction in the growth rate of world trade also, growth rate declined from 7.2 per cent in 2007 to 2.8 per cent in 2008, and further to -10.7 per cent in 2009. Note that import and export of both advanced and emerging countries recorded negative growth in 2009.

3 Financial Crisis and India

Though Indian banking system has had no direct exposure to the sub-prime mortgage assets or to the failed financial institutions, Indian

Table 1: World Economy and the Crisis

	2007	2008	2009	2010
World Output	5.2	3.0	-0.6	4.2
Advanced Economies	2.7	0.5	-3.2	2.3
United States	2.0	0.4	-2.4	3.1
Euro Area	2.7	0.6	-4.1	1.0
Germany	2.5	1.2	-5.0	1.2
France	2.1	0.3	-2.2	1.5
Italy	1.6	-1.3	-5.0	0.8
Spain	3.7	0.9	-3.6	-0.4
Japan	2.4	-1.2	-5.2	1.9
United Kingdom	3.0	0.5	-4.9	1.3
Canada	2.7	0.4	-2.6	3.1
Other Advanced Economies	4.7	1.7	-1.1	3.7
Newly Industrialized Asian Economies	5.7	1.8	-0.9	5.2
Emerging and Developing Economies	8.3	6.1	2.4	6.3
Central and Eastern Europe	5.4	3.0	-3.7	2.8
Commonwealth of Independent States	8.6	5.5	-6.6	4.0
Russia	8.1	5.6	-7.9	4.0
Excluding Russia	9.9	5.3	-3.5	3.9
Developing Asia	10.6	7.9	6.6	8.7
China	13.0	9.6	8.7	10.0
India	9.3	7.3	5.7	8.8
ASEAN-5	6.3	4.7	1.7	5.4
Sub-Saharan Africa	6.9	5.5	2.1	4.7
Western Hemisphere	5.7	4.3	-1.8	4.0
Brazil	5.7	5.1	-0.2	5.5
Mexico	3.3	1.5	-6.5	4.2
World Trade Volume (goods and services)	7.2	2.8	-10.7	7.0
Imports				
Advanced Economies	4.7	0.6	-12.0	5.4
Emerging and Developing Economies	14.0	8.5	-8.4	9.7
Exports				
Advanced Economies	6.1	1.9	-11.7	6.6
Emerging and Developing Economies	9.5	4.0	-8.2	8.3

Notes:

1. Percentage change over previous year is reported.
2. Figures for 2010 are projections.

Source: IMF (2009, Table 1.1 in page 10) and IMF (2010, Table 1.1 in page 2).

economy too has been affected by the crisis. The crisis spread to India mainly through three channels, namely financial channel, real channel and confidence channel. Financial channel include slowdown in the flow of capital and other receipts to India and increased capital outflow from India. The real channel primarily includes the deceleration in the export growth. The immediate impact of a crisis like this is the decline in the business confidence regarding near term prospects of the economy. Bleak economic prospects and the consequent perception of increased risk made consumers, producers, bankers and other economic agents more cautious in their decision making. The not so rosy prospects about the economy and the increased risk would make them either to shelve or to cancel many purchase and investment plans, adversely affecting the demand side of the economy.

3.1 Impact on India's Financial Market

Indian financial market – consisting of equity market, money market, forex market and credit market – had all come under pressure from a number of directions. Financial market in India, which remained largely orderly from April 2008 to mid-September 2008, witnessed heightened volatility between mid-September and mid-October 2008. As a consequence of the global liquidity squeeze, Indian banks and corporates found their overseas financing drying up, forcing corporates to shift their credit demand to the domestic banking sector. The resources raised through Euro issues – American Depository Receipts (ADR) and Global Depository Receipts (GDR) – by the Indian corporates during April- September 2008 declined considerably by 58.8% as compared to the corresponding period of the previous year (RBI, 2008)⁵. Also to

5 During April-September 2007, Indian corporates raised Rs.11284 crore through 10 Euro issues and during the corresponding period in 2008, it could raise only Rs.4652 crore through 10 Euro issues (RBI, 2008, p.92).

offset the dried up foreign financing, corporates withdrew their investments from domestic money market mutual funds putting redemption pressure on the mutual funds and down the line on non-banking financial companies (NBFC), where MFs had invested a significant portion of their funds. This substitution of overseas financing by domestic financing brought both money markets and credit market under pressure. Further, RBI's measures to contain the excess volatility in the foreign exchange market by injection substantial dollar liquidity has had a tightening impact on the rupee liquidity. The impact was magnified on account of domestic factors such as advance tax outflows from the banking system.

Table 2: Average Call Money Rates@ (in %)

Month	2008	2009
Jan	6.69	4.18
Feb	7.06	4.16
Mar	7.37	4.17
Apr	6.11	3.28
May	6.62	3.17
Jun	7.75	3.21
Jul	8.76	3.21
Aug	9.1	3.22
Sep	10.52	3.31
Oct	9.9	3.17
Nov	7.57	3.19
Dec	5.92	3.24

Note: @ Average of daily weighted Call money borrowing rates. Source: RBI (2008, 2009, 2010a).

In the domestic money market, interest rate moved in accordance with evolving liquidity conditions. The daily average call rate, which had remained mostly within the informal corridor set by the reverse repo

and repo rate of liquidity adjustment facility (LAF) during the first quarter of 2008-09, hovered generally above the corridor during the second quarter. Find from table 2 that average call rate was highest during September-October 2008. The call rate moved above the repo rate in mid-September 2008. Call rates in the money market have settled back into the informal LAF corridor since November 2008, having breached the upper bound in the preceding two months.

Due to the tight liquidity conditions, short term interest rate increased from 7.23% in the end of March 2008 to 8.56% at the end of September 2008 and further to 8.69% by the mid October (RBI, 2008). This also led to an increase in the deposit and lending rates of scheduled commercial banks in India (RBI, 2008).

Despite the resilience of Indian banks, the crisis adversely affected many credit financed economic activities and consumption in the country. Liquidity crisis created serious credit crunch for traders; instances of banks delaying or not honouring guarantees extended to traders became more frequent. Exporters found it increasingly difficult to get credit because of the loss of trust on banks in developed countries, apart from the cost of trade credit (Srinivasan, 2009; Nair, 2009b). Export credit as a percent of net banking credit fell from 5.5% as on March 28, 2008 to 4.6 per cent as on March 27, 2009 and further to 4.1% as on January 15, 2010. The outstanding export credit as on March 28, 2008 was Rs 129983 crores and it declined to 128940 as on March 27, 2009; a decline of -0.8% (Government of India, 2010). Further, because of the not so rosy prospects of the economy, banks in India became more choosy and cautious in extending loans, especially to the buyers of real estate and consumer durables. Since growth in a number of areas, such as automobiles, housing and real estate and consumer durables are all fuelled by the credit financed demand, the liquidity crunch and increase in the cost of loans reduced the demand for housing, automobiles and durable consumer goods, resulting in a slowdown or stagnation in these

industries. For instance Joshi (2008) reports that “Sales of almost all auto mobile players have been hit because of the non-availability of finance and high interest rate. Tata Motors’ sales declined by 20% in October 2008. Mahindra & Mahindra also reported 17.8% decline in the total automotive sales in October, while Maruthi Suzuki declined by 8%”. The slowdown in these industries spread to other industries and service sectors through demand and supply linkages with significant employment implications. For instance, The Hindu (2008) reports that Apollo Tyres’ factory, owned by the Premier Tyres Limited (PTL), in Kalamassery in Kerala imposed a lockout in the wake of the world-wide economic meltdown and subsequent recession faced by the automotive industry in the country. Quoting the report “The notice of lockout from PTL opened with a pointer to the shape of the automotive and tyre industries. It said that principal automobile makers like TATA Motors, Maruti Udyog and Ashok Leyland had cut production substantially”.

The crisis also led to large capital outflows from India as part of the global deleveraging process. According to the data released by the Security Exchange Board of India (SEBI), Foreign Institutional Investors (FIIs) made a net sales of Rs. 32298 crore in the Indian equity market during 2008-09 (up to October 13, 2008) as against net purchase of Rs. 61992 crore during the corresponding period of the previous year (RBI, 2008). Figure 2 shows that foreign institutional investment was negative in the year 2008-09. The capital outflow together with the conversion of funds raised locally by the corporates into foreign currency to meet their external obligations put foreign exchange market under pressure, exerting a downward pressure on rupee. This along with bearish stock market condition and high inflation resulted in the depreciation of the rupee against US\$ and other major currencies. The exchange rate of the rupee depreciated from Rs. 39.99 for a dollar at the end of March 2008 to Rs. 48.84 for a dollar on October 16, 2008, depreciation of 18.1 per cent during this period (see Figure 3). During the same period, rupee depreciated by 5.5 per cent against the Pound Sterling, 3.6 per cent

against the Euro, 18.0 per cent against the Japanese Yen and 20.3 per cent against Chinese Yuan (RBI, 2008, p.85)

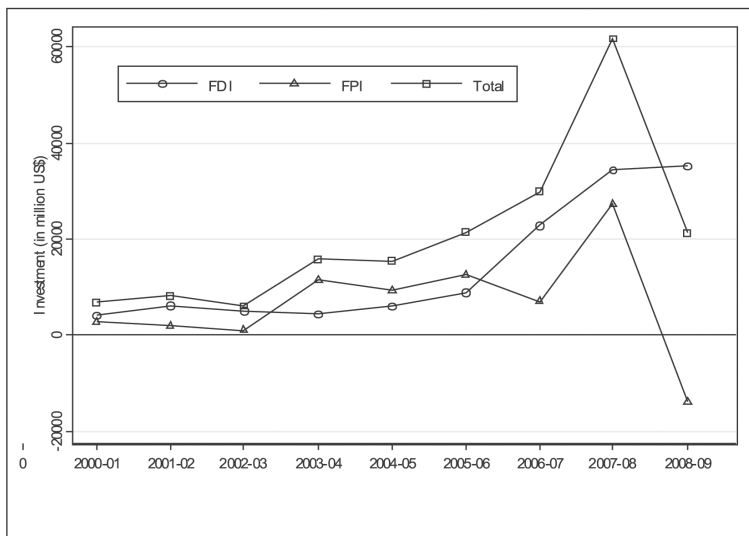


Figure 2: Trends in Foreign Investment

The primary market segment of the domestic capital market experienced slackness during the second quarter of 2008-09. Resources raised through public issues declined sharply to Rs. 12,361 crore during April-September 2008 from Rs.31,850 crore during the corresponding period of 2007. The number of issues also declined considerably to 32 from 60. The average size of public issues declined to Rs.386 crore during April-September 2008 from Rs.531 crore during April-September 2007 (RBI, 2008). In the secondary market, beginning from the second week of September 2008, Indian stock market turned more volatile, reflecting the decline in the international stock markets triggered by the bankruptcy/sell-out/restructuring of some of the world's largest financial institutions and the consequent severe disruptions in the international financial markets, heavy net sales by FIIs, sharp fall in the value of rupee, decline in the global metal prices and slowdown in industrial

growth. The closing value of BSE-100 Index crashed from 8226 on April 1, 2008 to 4951 on October 31, 2008 (see Figure 4).

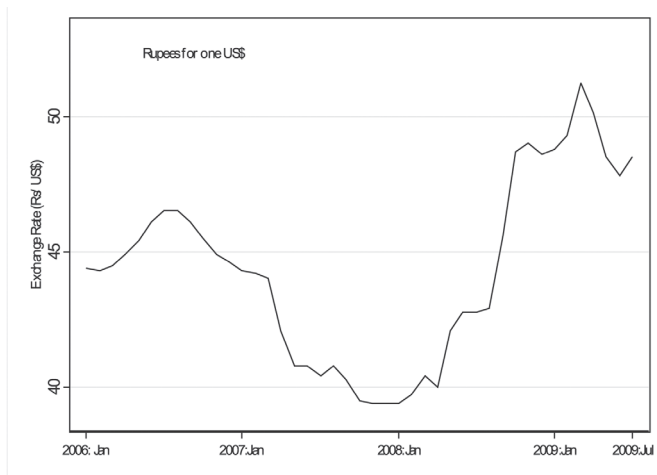


Figure 3: Exchange rate of rupee against US \$

3.2 Impact on India's Export

Export, both merchandise and service, account for around 22% (average for the period 2005-06 to 2008-09) of India's GDP and therefore, it is an important demand side factor determining the GDP of the country. Hence, any slowdown in export would have a sure adverse impact on the GDP growth of the country. As developed countries account for a larger share of India's export, both merchandise and service, recession in these countries can slowdown the export growth of India⁶. Growth rate of merchandise export declined to 3.4 per cent in 2008-09 from 25 per cent in 2007-08 (see Figure 5). Merchandise export started negative growth from the third quarter of 2008-09 (see Table A.2 in the

6 See Table A.1 in the Appendix for country-wise distribution of India's merchandise export.



Figure 4: Closing value of BSE 100-Index

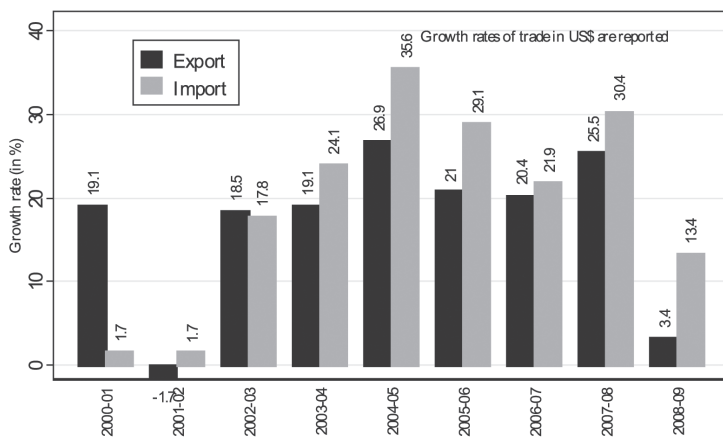


Figure 5: Growth of Import and Export

Appendix). Similarly, growth rate of import also declined in 2008-09, reflecting the recessionary trends in the domestic economy. Merchandise import started negative growth rate from fourth quarter of 2008-09.

Regarding the services' export, Table 3 shows that receipts from services export suffered a deceleration in 2008-09-, growth rate came down from 22.4% in 2007-08 to 12.5% in 2008-09. The point to note is that all services suffered a decline in the growth rates in 2008-09, with travel and insurance registering negative growth rates. Growth rate of receipts from software services in 2008-09 was around half of what it was in the previous year. As software export accounts for a larger share in services' export, the deceleration in the service export was mainly contributed by the decline in the software export⁷. The negative growth rate in the travel account, which mainly include the services and commodities consumed by the foreign tourists, could be due to the reduction in the tourists arrival in the year 2009. In 2009, the number of foreign tourists to India declined by -3.3 per cent (see Table 23).

Apart from the services, another item in the invisibles account of the Balance of Payment is the transfers. The table 3 shows that private transfers, which is not only growing very fast in recent years but also accounts for a significant share of receipts in the invisibles account, recorded lower growth rate in 2008-09 compared to the previous year⁸. The deceleration in the growth rate of merchandise export and invisible receipts increased the deficit in the current account of the Balance of Payment from -1.3% of GDP in 2007-08 to -2.5% in 2008-09.

7 During 2005-06 to 2008-09, average share of Software export in the service export is 44%.

8 During 2005-06 to 2008-09, average share of private transfers into India in the total invisibles' receipts was 28 per cent.

Table 3: Growth of Invisibles' Receipts

	2004-05	2005-06	2006-07	2007-08R	2008-09PR
Invisibles Receipts (A+B+C)	29.9	29.0	27.7	30.0	9.8
A Services	61.0	33.3	28.0	22.4	12.5
1 Travel	32.3	17.8	16.2	24.4	-4.0
2 Transportation	46.0	35.1	26.1	25.6	12.7
3 Insurance	107.6	22.1	12.5	37.2	-13.4
4 GNIE	67.1	-21.7	-19.4	30.8	17.5
5 Miscellaneous of which Software Services	70.5	37.5	31.2	21.3	15.9
	38.3	33.3	32.6	28.8	14.9
B Transfers	-4.6	18.1	22.8	40.6	7.4
1 Official Transfers	11.2	8.6	-5.1	18.6	-14.3
2 Private Transfers	-5.0	18.4	23.6	41.1	7.8
C Income	17.6	39.5	45.3	53.3	0.3
1 Investment Income	9.3	51.0	43.3	54.7	-2.4
2 Compensation of Employees	260.8	-61.8	113.4	20.7	79.0

Notes:

(1) Growth rate is in per cent, computed using figures in US\$.

(2) R: Revised, and PR: Partially Revised.

Source: RBI (2010c).

The financial crisis can slowdown the overall economic growth of the country by squeezing the demand side and by constraining the supply side. The liquidity crisis adversely affected many credit financed/ depended production. Further, tightening of credit for housing, automobiles and other durable consumer goods reduced the demand and caused slowdown in respective industries. The slump in these industries affected many basic industries such as steel, cement and basic chemicals through input linkages, leading to either reduction or

stagnation in the prices of many basic inputs (see Table 4). Another hit from the demand side was the reduction in the growth of export, which is now a significant demand side determinant of GDP growth. A part from these, the pessimistic perception about the near future of the economy caused shelving, if not cancellation, of many new projects and expansion plan of existing ones. As one can expect in a risk averse society, slowdown in some industries/sectors and pessimistic perception about the near future of the economy can have contagious and self-reinforcing effect through supply and demand linkages and is capable of setting off an overall recession in the economy. To discern the deceleration in the growth of aggregate and sectoral GDP more clearly, Figure 6 fits the lowess regression to their quarterly growth rates.⁹

The Figure 6 shows that GDP growth started decelerating from the first quarter of 2007-08, before the onset of the financial crisis. This supports the argument of Rakshit (2009) that deceleration in the growth of Indian economy started prior to the financial crisis and the crisis only accentuated the slow down¹⁰. Sectors that suffered slowdown in their growth include Manufacturing, Construction, Finance, Insurance, Real Estate and Business Services, and Trade, Hotels and Restaurants. Needless to say these are precisely the sectors more prone to a crisis like this.

9 See the Table A.2 in the Appendix for the quarter-on-quarter growth rate of import, export, FDI and other variables.

10 Econometric exercise of Mukherjee (2009) also confirm this argument.

Table 4: Trends in the wholesale Price Index of Intermediate/Basic Inputs

Date	Iron and Steel	Basic Pig Iron	Cement	Zinc	Basic Heavy Organic Chemicals	Naphtha	Raw Rubber	Raw cotton	Aluminium
05/07/08	363	486	222	171	220	1133	457	235	251
12/07/08	363	486	222	171	220	1133	450	238	251
19/07/08	363	486	222	164	220	1145	455	238	251
26/07/08	363	486	222	164	220	1145	455	242	251
02/08/08	362	485	222	161	215	1114	479	242	251
09/08/08	362	485	223	161	215	1114	468	240	251
16/08/08	363	490	223	161	216	1014	476	240	251
23/08/08	363	490	224	158	216	1014	472	246	251
30/08/08	363	490	224	158	216	1014	479	248	251
06/09/08	360	467	224	158	208	1004	480	248	251
13/09/08	360	467	225	161	208	1004	484	248	251
20/09/08	362	478	225	161	208	1004	471	248	251
27/09/08	362	478	225	161	208	1004	471	242	251
04/10/08	358	450	225	158	208	896	387	242	251
11/10/08	358	450	225	158	208	896	313	232	251
18/10/08	357	437	225	141	203	896	287	218	251
25/10/08	357	437	225	138	203	896	308	225	251

Source: Economic Advisor, Ministry of Commerce; downloaded from the URL: <http://www.eaindustry.nic.in/>.

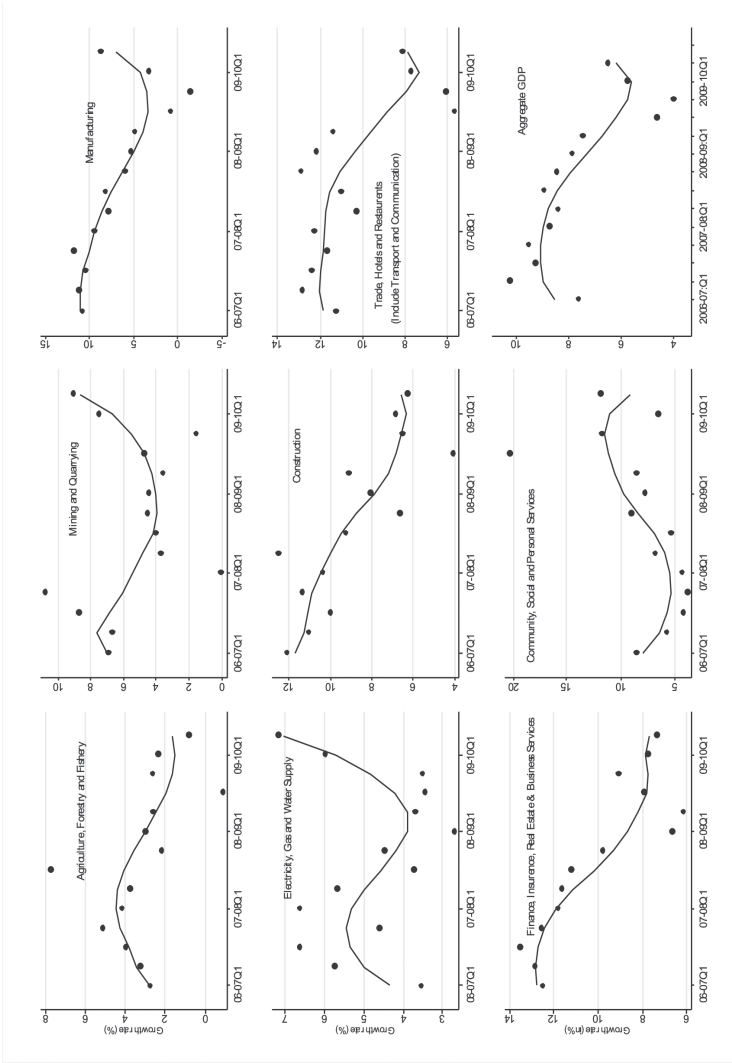


Figure 6. Growth Rate of GDP

4 Financial Crisis and Kerala Economy

Kerala, being highly integrated with the rest of the world, is believed to be more vulnerable to a crisis of this kind. The following factors contribute to the increased vulnerability of the state’s economy.

1. About 10% of the state's labour force belong to the category of migrants working in other states or abroad, making the state to receive large amount in remittances. The remittances are argued to be responsible for the high level of per capita consumption expenditure in Kerala as revealed through various rounds of NSSO's surveys (CDS, 2009).
2. Over time, the state's economy has assumed a structure in which the share of the tradeables (agriculture and manufactures) in State Domestic Product (SDP) declined drastically and there was a corresponding increase in the share of the services (see Table A.4 in the Appendix). In the service sector, as shown in the table, a larger share is accounted by Transport, Storage and Communication and Trade, Hotels and Restaurants. These are also the fastest growing sectors in Kerala (see Table A.3 in the Appendix). It has been argued that growth of the service sector is being triggered by the demand fuelled by resource flow from outside, which mainly include remittances and tourism (Pushpangadan and Parameswaran, 2006). So any negative shock on flow of remittances and tourists can significantly slowdown the growth of the state's economy.
3. Dependence of primary and secondary sectors on external demand is not less. In the secondary sector, construction accounted for a larger share and it is one of the fast growing sectors, which is attributed to the demand fuelled by the remittances from abroad. In the manufacturing sector, export oriented industries like cashew, coir and handloom, are important in terms of output and employment. Within agriculture, share of export oriented cash crops in output and employment is significant.

An economic crisis having adverse impact on export, liquidity, remittances and tourists arrival can seriously affect Kerala economy.

However, some of the outcomes of the crisis can affect some sectors of the economy positively and thereby mitigate the overall impact of the crisis. For instance, Kerala being mainly a consumer state of many intermediate inputs, except natural rubber, the decline in their prices, which we have seen in the last section, could benefit Kerala economy. The decline/stagnation in the price of cement, steel and other construction materials may have given some respite to the construction sector in the state during the time of crisis.

In this paper we examine the following four channels through which the crisis can spread to Kerala economy.

1. Remittances,
2. Credit Availability,
3. Export, and
4. Tourist Arrival.

4.1 Remittances

There is now enough consensus on the fact that although the per capita domestic product in Kerala is low compared with most other states in India, the per capita consumption expenditure in Kerala is second only to Punjab, mainly because the shortfall in GDP is offset by the inflow of large scale remittances from abroad especially from Middle East countries and other parts of India (CDS, 2009). Further, a number of economic activities in the state particularly, trade, real estate and construction are fuelled by the remittances. According to Kerala migration survey 2007, conducted by Centre for Development Studies, Trivandrum, the number of international migrants from Kerala stood at 1.85 million, representing 24.5 emigrants per 100 households, and around 89 per cent of them are located in Gulf countries.

Direction of the impact of the financial crisis on remittances to India is ambiguous. One possibility is that recession in developed countries and oil price decline would slowdown recruitment of workers

as well as freeze or reduce pay packages in the host countries. This would reduce remittances to India¹¹. Another possibility is that some of the developments associated with the financial crisis can increase remittances to India, at least in the short run. These developments include (1) exchange rate depreciation, (2) increase in the interest rate ceiling on NRI deposits. The interest rate on NRI deposits was revised upwards by 50 base points since September 2008. and (3) A better perception about the strength of the Indian banking system. There was a general feeling that commercial banks in India had very little or no exposure to the toxic assets and therefore shifting funds to banks in India was considered to be safe.

Table 5: Private Transfers to India

Year	Private Transfers (in US \$ million)	Growth rate (in %)
2000-01	13065	6.3
2001-02	15760	20.6
2002-03	17189	9.1
2003-04	22182	29.0
2004-05	21075	-5.0
2005-06	24951	18.4
2006-07	30835	23.6
2007-08	43506	41.1
2008-09	46380	6.6

Source: RBI Database on Indian Economy.

11 For the effect of financial crisis on Gulf countries and South Asian migrant workers working there see Irudaya Rajan and Narayana (2010).

Table 6: Region-wise Distribution of Private Transfers to India

Year	Gulf Countries	North America	South America	Europe	Africa	East Asia	Others	Total
2006-07	9012	10022	1264	5239	690	1749	2859	30835
2007-08	12670	14242	1800	7357	971	2488	3979	43508
2008-09	14430	13790	1891	9163	1503	1952	4174	46903

Note: Figures are in US \$ million.

Source: RBI (2010b).

Official data on remittances, derived from balance of payment statistics, are available only for India as a whole. Given the unavailability of state-wise official data on remittances and Gulf region being the major source of remittances to Kerala, in order to draw inference on the possible impact on remittances to Kerala, we examine the trends in the remittances from Gulf countries. In the balance of payment (BOP) tables, remittances are receipts under the heading *private transfers*. In 2008, remittances account for about 3 per cent of the net national disposable income of India. Table 5 presents the trends in the receipts of private transfers. In 2008-09, the year that can reflect the impact of the crisis, the growth rate is positive, but much lower than that registered in the previous three years. To quote RBI (2010c, p.570), “During 2008-09, private transfer receipts, comprising mainly remittances from Indians working overseas, increased over the previous year. However, there was a moderation in remittances inflows during the second half of 2008-09, with deepening global financial crisis affecting the employment prospects and sharp decline in oil prices affecting the demand for expatriate labour in the oil exporting Gulf countries from where a significant share of remittances to India originates.” As per the BoP data released by the RBI, the deceleration in the growth of remittances has been reversed in 2009-10 (RBI, 2010c, p.572). Table 6 presents the region-wise distribution of remittances. The table shows that, remittances from the Gulf region—the major source for Kerala—registered a positive growth of 13.9 per cent in 2008-09, however it was well below the growth rate of 40.6 per cent recorded in the previous year.

4.2 Credit Availability

Credit is an important route through which financial crisis can affect the real economic activity. We have already seen that the crisis led to an increase in the prime lending rate. Further, banks also adopted a cautious lending policy due to the perception of increased risk. The crisis can reduce the growth rate of credit from demand side also. Because of the not so rosy prospects of the economy many consumers and firms may have postponed or cancelled purchase and investment plans and therefore their demand for credit. The observed credit growth can be the outcome of both this demand and supply side squeeze. Table 7 presents the growth rate of advances by scheduled commercial banks in India and Kerala. Find that growth rate of advances was positive and only a few percentage points lower in 2008 and 2009 compared to that of the previous years.

Table 7: Advances by Scheduled Commercial Banks in India and Kerala

Year	Advance in Kerala			Advance in India	
	Amount	Growth (%)	Incremental Advance	Amount	Growth(%)
2000	15941	17.4	2364	435958	18.2
2001	19180	20.3	3239	511434	17.3
2002	22062	15.0	2882	589723	15.3
2003	27007	22.4	4945	759210	28.7
2004	31548	16.8	4541	890866	17.3
2005	39351	23.5	7803	1157807	30.0
2006	49153	24.9	9802	1517497	31.1
2007	60615	23.3	11462	1949567	28.5
2008	71226	17.5	10611	2394566	22.8
2009	81612	14.6	10386	2857525	19.3

Note: Amount is in Rs crores.

Source: Kerala State Planning Board (2010).

4.3 Export

The recession on the export front can seriously affect the state's economy because of the importance of export oriented production in the state. The important items in the export basket of Kerala include Coir, Marine Products, Cashew, Handloom Products, Pepper, Cardamom and other spices. Recently, IT and IT enabled services (ITES) also assumed an important place in its export basket. Most of the exporting commodities from Kerala, such as Coir, Cashew, Marine Products and Handloom products are labour intensive and labourers engaged in these industries are highly vulnerable to negative income shocks. Similarly, a large number of farmers, particularly small farmers, agricultural labours and non-farm workers involved in the cultivation of pepper, coffee, cardamom, tea and other export oriented crops are also reported to be more vulnerable to income shocks arising from price and crop failure (see: Nair and Menon, 2007; Nair, Paul, and Menon, 2007). The slowdown in the export demand can cause the prices of many products to plummet, particularly prices of plantation products and that of traditional industries because of being inelastic in supply in the short run. Thus, the slowdown on the export front can have serious livelihood impacts in the state.

The recession on the export front can bring the prices of the products of traditional industries and plantations down and thereby affect the income of those engaged in the production. As supply is inelastic in the short run, particularly in the plantation sector, the recession cannot have an immediate impact on the volume of production.

Following paragraphs discuss the trends in the export of these commodities and the possible impact of the crisis. As state level data on export are not available we rely on the export data available for India as a whole.

Coir: Coir industry consists of production of coir fibre, coir yarn, coir matt and other coir products. It is a major provider of employment to the rural poor especially women in the coastal areas who belong to

the most underprivileged social groups in Kerala. The total number of workers in production is 159986, of which 131293 (82%) are women (Survey of Coir units and Sample Survey of Coir Workers, 2008). Around 85 % of work is in household units. Production of coir from Kerala caters to 90% of domestic consumption and 95% of export from the country (Kumar, 2010). Table 8 presents the trends in the export of coir and coir products from India. In 2007-08, the growth rate of value is negative because of the decline in the price of the coir products as shown by the unit value index. Growth rate of quantity was 24.1% in 2006-07 and it declined to 11.1% in the next year and it further decelerated to 6.6% in 2008-09. The growth rate of value in 2006-07 was 19% and it declined to -2% in 2007-08. The growth rate of value slightly improved in 2008-09 because of the improvement in the price of the product.

Table 8: Export of Coir and Coir Products from India

Year	Quantity		Value		Unit Value	
	(in Tonnes)	Growth	(Rs Lakhs)	Growth	Index	Growth
2001-02	71334.8	5.7	32058.4	2.2	100.0	-3.3
2002-03	84182.6	18.0	35270.6	10.0	93.2	-6.8
2003-04	102253.4	21.5	40749.7	15.5	88.7	-4.9
2004-05	122926.8	20.2	47340.3	16.2	85.7	-3.4
2005-06	136027.0	10.7	50844.8	7.4	83.2	-2.9
2006-07	168754.8	24.1	60516.6	19.0	79.8	-4.1
2007-08	187566.7	11.1	59288.1	-2.0	70.3	-11.9
2008-09	199924.9	6.6	63997.4	7.9	71.2	1.3

Note: Growth in per cent.

Source: Coir Board Website: <http://coirboard.gov.in/resources/statistics.htm>

Table 9: Country wise export of coir

	COUNTRY	2006-07		2007-08		2008-09	
		Quantity	QTY%	Quantity	QTY%	Quantity	QTY% ¹
1	USA	38264.01	22.67	38412.38	20.48	37819.25	18.29
2	UK	10413.69	6.17	10179.01	5.43	10819.41	5.41
3	Germany	7661.43	4.54	7447.19	3.97	7951.02	3.98
4	Netherlands	26759.76	15.86	33642.72	17.94	33372.84	16.69
5	Spain	10276.37	6.09	12453.84	6.64	10113.67	5.06
6	Italy	6129.29	3.63	6614.23	3.53	5593.1	2.8
7	Canada	3824.68	2.27	4438.3	2.37	4279.93	2.14
8	France	3047.72	1.81	3575.72	1.91	3146.34	1.57
9	Australia	6000.66	3.56	6959.47	3.71	7732.1	3.87
10	Belgium	2300.09	1.36	2758.5	1.47	3299.45	1.65
11	China	8633.49	5.12	10169.71	5.42	18137.24	9.07
12	South Korea	13118.8	7.77	17380.32	9.27	18590.94	9.3
13	Sweden	1388.39	0.82	1256.76	0.67	803.69	0.4
14	Japan	1284.31	0.76	1351.28	0.72	1439.58	0.72
15	Turkey	1471.38	0.87	1243.4	0.66	1318.13	0.66
16	Greece	1222.49	0.72	1274.42	0.68	1474.22	0.74
17	South Africa	1268.88	0.75	1525.65	0.81	1366.69	0.68
18	Brazil	881.59	0.52	1561.32	0.83	1332.44	0.67
19	Poland	1278.38	0.76	1217.4	0.65	1316.8	0.66
	Total ²	145225.41	86.05	163461.62	87.16	169906.84	84.36

Notes: 1. QTY% gives share of the country in the total coir export from India.

2. Sum of the 19 countries.

Source: Coir Board Website: http://coirboard.gov.in/resources_statistics.htm.

Table 9 presents the trends in the export of coir to selected 19 countries. The table shows that decline in the growth rate of quantity exported is mainly accounted by the developed countries such as USA, the Netherlands, Spain, Italy, Canada and France. Business Line (2008a) reports that coir exports fell by 15% in value and 10% in volume during October 2008 due to the global recession and it reports the statement of the then Chairman of the Coir Board that “industry is going through tough times in exports, the Board has requested the Ministry of Commerce to grant credit for longer period at subsidised rates to coir exporters as well as to implement a possible incentive scheme for exploring alternative markets that are less affected by the economic recession”. In another report Pillai (2008) quotes the statement of Mr. Ramanathan, the then Export Promotion Advisor of Coir Board, that “Many of the importers in the U.S. who had placed orders for coir products have asked the exporters to delay the consignments. Shipments are not taking place.” Find that China drastically increased its import of coir products from India in 2008-09 and this to some extent compensated the decline in export to developed countries.

Cashew: Cashew industry is highly import depended, export oriented and employment intensive industry. Kerala accounts for over 60 per cent of cashew export from India. About 40-45 per cent of raw nut requirement is met through imports at the national level and in Kerala the import dependence is much higher- around 70 per cent. Because of the import dependence, rupee depreciation can add further burden on the industry.

Table 10 presents the trends in the quantity and value of cashew export from India. The quantity of export were lower in 2007-08 and 2008-09 compared to the preceding years. The Table 11 presents the country-wise export of cashew from India. Note that the decline in the quantity of export is due to the reduction in export to developed countries such as USA, UK, the Netherlands, and Canada. Nair (2009a)

Table 10: Export of Cashew Kernels from India

Year	Quantity (Tons)	Growth (%)	Value (Rs in Lakhs)	Growth (%)	Unit Value Index
2002-03	104137	6.8	193302	8.8	100
2003-04	100828	-3.2	180443	-6.7	96
2004-05	126667	25.6	270924	50.1	115
2005-06	114143	-9.9	251486	-7.2	119
2006-07	118540	3.9	245515	-2.4	112
2007-08	114340	-3.5	228890	-6.8	108
2008-09	108131	-5.4	295024	28.9	147
2009-10	108120	-0.01	290582	-1.51	145

Source: Cashew Export Promotion Council.

in a reports in the *The Hindu Business Line* states that “Export of cashew kernels continued to drop on weak demand due to the economic slowdown in the major consuming countries, mainly the US”. However, the growth rate of value in this year is positive due to the increase in the price. On the increase in the price of cashew, Vinayak (2008) reports that “The first three months of the current financial year (2008-09) have augured well for the Indian cashew exporters with cashew kernels recording a growth of more than 31 per cent in unit value realisation. The country, which exported cashew kernels at a unit value of Rs 194.13 a kg during the first quarter of 2007-08, earned Rs 254.98 a kg in the corresponding period of 2008-09”. The report quotes the then president of the Karnataka Cashew Manufacturers Association that “Vietnam heavily defaulted of its commitments to the US and Europe on account of which, they (US and Europe) were forced to buy from India. When they bought from India, the value realisation went up and quantity is also going up”. Another reason for the increase in the unit value was the increase in the price of raw nut imported from Indonesia and Tanzania. Brazil had a 35 per cent drop in production for season 2007 (September

to December), and 40 per cent of Indonesian crop was washed off. In India the un-seasonal rains ruined the crops in the west coast. All these factors added to the increase in the unit value realisation of the exported cashew kernels (Vinayak, 2008).

Table 11: Cashew Export: Country-wise (Quantity in Tons)

Countries	2006-07	2007-2008	2008-2009	2009-2010
1 U.S.A	46245	42694	36565	30804
2 Netherlands	19360	13627	13608	10314
3 U.A.E	9523	12692	14100	18161
4 Japan	4279	5114	4908	5633
5 U.K	4715	3758	3495	4477
6 France	3558	4033	3843	3814
7 Spain	2457	2831	2434	2782
8 Saudi Arabia	3357	3422	3278	3827
9 Germany	1770	1705	1479	1451
10 Canada	1308	659	752	531
11 Russia	1163	873	0	543
12 Italy	1208	636	991	651
13 Norway	1105	1064	1143	1239
14 Greece	1870	1867	1852	2222
15 Kuwait	964	812	1138	1178
16 Israel	995	695	806	580
17 Singapore	318	395	1141	1279
18 Korea Rep.	397	742	725	856
19 Australia	1344	2848	2118	1482
20 Others	12604	13882	15146	16294
Total	118540	114349	109522	108118

Note: The row total shows total export from India.

Source: Cashew Export Promotion Council.

Marine Products Kerala's share in the national marine fish production is about 20-25 per cent. In 2006-07 fishery sector contributed around 1.35% of the Gross State Domestic Product of the state. The estimated fisher folk population of Kerala in 2008-09 is about 11.33 lakhs. It is also estimated that around 630000 people are engaged in the fishing and allied activities. The fish production in Kerala in 2008-09 is around 6.66 lakh tonnes. In 2008-09 Kerala accounts for 17% of the quantity of fish exported from India and 18% of the value (Kerala State Planning Board, 2010). Table 12 presents the growth rate of marine products exports from India and Kerala. For the quantity and value of exports see Table A.5 in the Appendix. Find that in 2007-08, marine exports, both in value and quantity, recorded negative growth rate. In the case of Kerala, the growth rate of quantity was only 0.68% in 2008-09. The decline in the growth rate of marine export in 2007-08 is attributed to a number of factors like, imposition of antidumping duty on Indian shrimp by the USA and the appreciation of the exchange rate of rupee (Business Line, 2008d, 2010). Though, the growth of export picked up in 2008-09, table 13 shows that growth rate of export to USA, Japan and European Union is either negative or very low. This was attributed to recession in these countries (Business Line, 2009d). Further, it is also reported that recession and the consequent decline in the price of shrimp resulted in a reduction in the area under aquaculture by 28 per cent (Business Line, 2009g)¹² Basheer (2008) reports in the *The Hindu Business Line* that "Seafood exporters report a 20 per cent fall in demand" and also reports the statement of Mr. Abraham Tharakan, former president of Seafood Exporters Association, that "shrimp, which is exported to the U.S., Europe and Japan, is considered a luxury item and hence when the incomes fell in these countries it naturally got slashed from the shopping list of the average consumer". The table 13 shows

12 This news item reports the press conference convened by the then chairperson of the Marine Products Export Development Authority.

that export in 2008-09 picked up mainly because of the increased export to China and South East Asia¹³.

Table 12: Growth Rate of Marine Export (in %)

Year	India		Kerala	
	Quantity	Value	Quantity	Value
2005-06	11.02	9.01	11.37	8.64
2006-07	19.62	15.43	11.62	21.14
2007-08	-11.58	-8.88	-7.64	-6.10
2008-09	11.29	12.95	0.68	9.70

Source: Kerala Economic Review, 2009.

Table 13: Growth of Marine Export to Selected Countries (in %)

Country	2006-07		2007-08		2008-09	
	Quantity	Value	Quantity	Value	Quantity	Value
Japan	12.8	13.9	-0.1	2.1	-15.0	-8.8
USA	-21.6	-20.3	-16.3	-14.8	0.7	-10.2
European Union	9.4	26.2	-0.3	8.5	1.5	-6.1
China	48.5	34.9	-31.3	-2.4	5.4	11.5
South East Asia	12.5	2.8	-5.7	5.2	39.4	33.2
Middle East	5.9	18.4	9.2	18.9	5.5	7.3
Others	41.5	28.6	3.6	9.0	58.8	10.2

Source: Growth rate for the first two years are computed using data obtained from Lok Sabha Unstarred Question No. 2633 and for the last year from Marine Products Export Development Authority.

Tea: In 2008-09, Kerala's share in the total production of tea in India was 5 per cent. A declining trend in the production of tea in the

13 It has been reported that increased export to China made it the second largest buyer (Business Line, 2009g).

state is observed for the last eight years from 68 million kilogrammes in 2000 to 62 million kilogrammes in 2007. The area under cultivation is 0.35 lakh hectares. Tea plantation owned by big companies employ a labour force of over 84000 in the organised sectors. The average price of tea in 2007-08 was Rs. 67.3 per k.g which increased to Rs. 110.30 in 2008-09 (Kerala State Planning Board, 2010). Table 14 presents the growth rate of tea exports from India. For the quantity and value of export see Table A.6 in the Appendix. The Table 14 shows that in 2007-08, growth rate of tea export was negative for All India and for South India. This negative growth rate is attributed to the drastic decline in the export to Iraq, from 34.92 million k.g in 2006-07 to 0.05 million kg in 2007-08 (Business Line, 2008e). In 2008-09, however, tea export picked up. The increase in the export in 2008-09 was due to the dip in the production in Kenya by 21% (around 30 million k.g), resulting in greater demand from Egypt, Russia, Pakistan, Iran, Iraq and West Asian countries, who used to import from Kenya¹⁴ (Business Line, 2008f). It is also reported that resolution of trade complications relating to payments with Iraq also helped to increase export in 2008-09 (The Economic Times, 2009).

Table 14: Growth Rate of Tea Export (in %)

Year	North India		South India		All India	
	Quantity	Value	Quantity	Value	Quantity	Value
2005-2006	-0.9	-5.6	-7.9	-9.0	-4.4	-6.8
2006-2007	0.3	5.4	22.0	29.8	10.9	14.1
2007-2008	9.2	5.6	-35.9	-27.4	-15.0	-7.7
2008-2009	-3.5	20.9	12.2	37.4	2.9	26.1

Source: Tea Board.

14 It was also reported that Kenya itself purchased from India to meet its export obligations (see: Business Line, 2008f).

Table 15: Export of Tea to Selected Countries

Year	2006-07		2007-08		2008-09	
Country	Quantity	Value	Quantity	Value	Quantity	Value
1 Canada	0.92	12.5	1.22	14.61	1.7	30.71
2 Germany	4.51	89.02	5.74	97.27	4.28	90.79
3 Ireland	2.37	46.73	2.15	38.56	1.49	33.58
4 Japan	2.6	61.83	2.37	50.34	2.78	69.52
5 Netherlands	3.12	48	2.69	46.04	2.53	57.19
6 U.S.A.	8.76	138.99	9.9	135.19	8.89	153.4
7 UK	22.86	214.09	17.94	166.51	18.64	212.64

Note: Quantity in Million Kilogrammes and value is in Rs. crores.

Source: Tea Board.

The Table 15 presents the export of tea to developed countries. It shows that except for Japan, UK and Canada, the quantity of tea exported was lower in 2008-09 compared to 2007-08. The industry sources also mentioned that there was a slowdown in the orders from developed countries and this had been offset by the increased demand from Pakistan, Egypt and West Asian countries (Business Line, 2008f,e).

Spices: Spices include a large number of agricultural products like pepper, cardamom, ginger, and turmeric. The important spices produced in Kerala include pepper, cardamom, ginger, chilly, and turmeric¹⁵. Kerala accounts for 93 per cent of India's export of pepper, both in terms of quantity and value. Kerala's share in the cardamom production in India is 75% in 2007-08. The market for cardamom is largely domestic and export share is only 5% of the production (Kerala State Planning Board, 2010). In 2006-07, in terms of quantity, Malaysia accounts for 18.3% of spices export from India, followed by USA (15%),

¹⁵ Table A.7 in the Appendix provides the area under cultivation and production of important spices in Kerala in 2007-08.

Bangladesh (13%), UAE (10.5%) and UK accounts for only 5% of export. Since spices are essential ingredients in food preparation, the impact of recession can be minimal, except in the case of high end spices. Table 16 presents the growth of spices export from India. Find that growth rates of both quantity and value were lower in 2008-09 compared to those in 2007-08. Nine countries out of 15 developed countries registered negative growth rates in quantity in 2008-09, including USA, Germany, and the Netherlands. Growth rate of value is higher than that of quantity in 2008-09, implying higher price realisation.

Table 16: Growth of Export of Spices (in %)

Country	Quantity				Value			
	2005-06	2006-07	2007-08	2008-09	2005-06	2006-07	2007-08	2008-09
U.S.A	2.0	14.7	6.4	-6.4	16.5	32.9	12.1	29.7
U.K	15.2	-0.7	-1.7	11.7	14.2	23.3	0.1	27.3
Singapore	-12.0	19.5	60.3	-17.8	48.3	33.6	58.3	-3.5
Germany	16.2	17.4	-1.4	-5.2	26.7	42.0	-6.0	-5.5
Japan	19.3	-21.9	2.8	3.9	8.4	-0.1	-2.2	13.5
Netherlands	-4.3	15.7	12.5	-6.8	-1.5	75.6	12.4	25.0
France	0.1	1.1	9.6	15.7	31.3	-12.6	7.7	38.2
Canada	9.2	-8.7	13.7	-9.3	6.0	12.2	27.5	7.7
Australia	6.8	18.5	-0.6	0.4	15.0	39.3	11.1	14.8
Spain	-21.5	43.3	19.6	-4.6	-29.0	2.2	43.4	-10.4
Belgium	16.3	11.2	13.9	-18.4	60.8	50.9	-7.6	-2.5
Italy	-7.5	-9.2	24.2	-1.9	-5.0	31.6	46.1	6.5
Denmark	114.3	-18.8	-12.1	39.5	-15.6	150.7	-6.2	28.6
Israel	-11.3	23.5	6.4	12.0	-17.6	38.9	22.1	18.6
Sweden	7.1	-11.3	54.7	-32.5	19.0	2.7	97.1	-19.6
Others	5.5	4.4	29.2	4.1	10.4	32.8	84.0	-2.1
Total	0.5	-4.7	33.1	5.9	11.8	36.1	24.0	19.5

Source: Computed using data obtained from Spices Board.

Table 17: Growth of Export of Selected Spices (in %) Quantity

Item	Quantity				Value			
	2005 -06	2006 -07	2007 -08	2008 -09	2005 -06	2006 -07	2007 -08	2008 -09
Cardamom(L)	9.7	43.4	-11.7	41.5	2.2	46.8	-11.5	52.1
Cardamom(S)	34.3	-24.7	-23.1	50.0	13.5	-16.6	10.7	91.0
Chilly	-18.03	31.21	40.74	-10.05	-19.2	100.4	35.9	-1.5
Ginger	-32.2	-20.3	-10.7	-25.4	-28.2	-7.5	-29.6	24.4
Pepper	22.7	65.6	21.7	-27.9	24.0	102.9	69.7	-20.4
Turmeric	7.7	11.0	-4.4	6.6	-2.2	7.8	-4.7	58.3

Source: Computed using data obtained from Spices Board.

Table 17 presents export growth of some selected spices important to Kerala. The table shows that pepper, ginger, and chilly recorded negative growth in 2008-09. In the case of pepper the decline in the export is attributed to the reduced demand from the developed countries due to the recession. USA is the largest buyer of pepper in the world market. In 2008-09, USA imported a total quantity of 55,000 tons of pepper (black & white) as against their average import of about 60,000 tonnes per annum. Many major US companies reduced their inventories because of economic slow down leading to low volume of import. USA is the largest buyer of Indian pepper, accounting for about 40% of our total export. In 2008-09, export to USA declined by -30.7%, Germany -29%, UK -18.9%, Italy -19.4% and Canada-9.4% (Spices Board, 2009). Because of the decline in pepper export, its domestic price also come down drastically to Rs 129.30 per k.g in 2008-09 from Rs.140.16 in the 2007-08 (Spices Board, 2009). The reason for the decrease in the export of chilly was the considerable decline in the export to Bangladesh and ginger export came down due to short supply and the consequent increase in its price.

Coffee: The area under coffee in Kerala was 0.85 lakh hectares out of the 3.94 lakh hectares in the country in 2008-09, which works out to be 21%. The share of Kerala in production is 22% in 2008-09. The major variety grown in Kerala is Robusta with a share of 95% in planted area. Production of coffee in the state in 2008-09 was 0.57 lakh metric tonnes against 2.62 lakh metric tonnes in the country as a whole (Kerala State Planning Board, 2010). In 2008-09, export was 75% of the total production in the country. Table 18 presents the trends in the export of coffee. It shows that in 2007-08 and 2008-09 the quantity exported registered negative growth and growth of value of exports were positive. In 2007-08, the decrease in coffee export was partly due to the appreciation of the rupee against US dollar (Business Line, 2007). The reasons for the decline in the quantity exported in 2008-09 were a significant decrease in the coffee output (see Table A.8) and lower demand owing to the recession in importing countries. The decline in production was attributed to rain on the blossom day followed by heavy monsoon and off-season rains in October and November leading to dropping of arabica berries (Business Line, 2009a). Lower production increased the price of coffee. It was reported that increased price along with the crisis in developed countries reduced export in 2008-09. For instance Business Line (2009e) reports the statement of the then president of All-India Coffee Exporters Association, Mr. Ramesh Rajah, "The prices we are asking are above international parity. Obviously, regular customers from countries such as Belgium are not willing to pay in a recessionary environment". The drop was mainly in the instant coffee segment because of the shift from the high cost to low cost products (Business Line, 2009b,f,e; Financial Express, 2009b,a). The increased price along with depreciation of the rupee against US\$ contributed to higher unit price realisation of coffee (Business Line, 2009i).

Table 18: Coffee Export from India

Year	Quantity		Value		Unit Value Index	
	in Tonnes	Growth	in Rs. Crores	Growth	Index	Growth
2001-02	213586	-13.5	1050.36	-23.6	100	-11.6
2002-03	207333	-2.9	1051.45	0.1	103	3.1
2003-04	232684	12.2	1158.45	10.2	101	-1.8
2004-05	211765	-9.0	1224.67	5.7	118	16.2
2005-06	201555	-4.8	1510.38	23.3	152	29.6
2006-07	249029	23.6	2007.9	32.9	164	7.6
2007-08	218996	-12.1	2046.29	1.9	190	16.0
2008-09	197171	-10.0	2242.64	9.6	231	21.6

Note: Growth is in per cent.

Source: Coffee Board (2009b)

Table 19: Growth of Coffee Export to Selected Countries

	Country/Year	2005-06	2006-07	2007-08	2008-09
1	Italy	8.5	17.6	-14.3	-5.6
2	Germany	1.4	30.4	-34.8	2.9
3	Belgium	21.6	25.0	-24.1	-8.9
4	Spain	-10.5	7.8	-20.6	-2.8
5	Finland	15.4	44.8	28.7	-33.1
6	Switzerland	-24.8	31.1	49.9	-20.5
7	U.S.A	-56.6	73.8	1.2	-54.7
8	France	-11.0	53.2	-33.6	-3.3
9	Netherlands	-18.2	16.8	-17.0	-26.3
10	Japan	-29.9	12.1	-53.6	-22.2
11	Canada	-7.4	58.3	-30.3	-10.2
12	United Kingdom	-9.7	3.6	-8.5	22.7
13	Russian Federation	-14.6	-6.7	-8.2	-36.0

Note: Growth rate of quantity in % are reported.

Source: Coffee Board (2009a)

Table 19 presents the quantity growth of coffee exported to selected countries. Note that exports to a number of developed countries declined drastically. The decrease in export in 2008-09, as we have noted above, was attributed to recession in these countries along with higher price of coffee. For instance, Business Line (2009c) reports the statement of Mr.Shaji Philip, Coffee Committee Chairman of United Planters Association of South India (UPASI) “Consequent to the economic recession our exports to Japan have declined. Japan used to buy Indian premium coffee but now it has cut down its imports”. In another report Business Line (2009f) quotes the then Chairman of Coffee Board Mr.G.V.Krishna Rau, “There was a drop of almost 7,500 tonnes in export of instant coffee to Russia, which happened in the past two quarters due to global financial crisis”.

Handloom: Handloom industry is one of the important traditional industries in Kerala, and it stands second to coir industry in providing employment to about 1.00 lakh persons. The industry is mainly concentrated in Thiruvananthapuram and Kannur districts and some parts of Kozhikode, Palakkad, Thrissur, Ernakulam, Kollam and Kasaragod districts. Kannur contributes around Rs.300 crores by export, which accounted for around 10-15% of country’s handloom export (Business Line, 2008b). Handloom industry in Kerala produced handloom cloth of 70.88 million meters in 2007-08 which was decreased to 20.20 million meters in 2008-09. The total value of production also marked a sharp decline from Rs. 318.96 crores in 2007-08 to Rs.146.38 crore in 2008-09. It was argued that global economic crisis has affected not only the export demand, but domestic demand also, contributing to a sharp reduction in production (Kerala State Planning Board, 2010). The Table 20 presents the trends in the export of handloom products from India. It shows that in 2009 handloom export registered negative growth rate and export to almost all developed countries recorded negative growth rate. It may be suggesting the impact of global recession.

Table 20: Growth of Handloom Export

Country/Year		2007	2008	2009
1	Australia	-4.2	32.0	-1.5
2	Belgium	20.1	-3.7	-16.8
3	Canada	4.8	-8.9	-11.2
4	France	3.1	-9.2	-20.0
5	Germany	-1.2	10.9	-13.1
6	Italy	0.7	-6.1	-17.9
7	Japan	-4.3	3.5	1.3
8	Netherlands	15.9	-11.3	-5.0
9	Norway	-13.9	-7.1	1.4
10	Spain	-13.8	-12.0	-28.0
11	United Kingdom	5.2	-9.0	-5.5
12	United States	1.1	6.9	-15.2
	World	3.1	5.0	-13.8

Note: Growth of Value in US\$ in per cent.

Source: Computed using data from UN COMTRADE.

IT and ITES: IT and IT enabled services (ITES) assumed an important place in the export basket of Kerala during the last one and a half decades. Currently, most of the information technology service providing firms are located in three technology parks, namely Technopark Thiruvananthapuram, Infopark Kochi, and Cyberpark, Kozhikode. Besides these, there are also some private IT parks, which include Muthoot Park and Leela Park. Among the three, Technopark and Info Park are the prominent ones and they together provide a direct employment of more than 40,000 and indirect employment of more than 200,000 (Kerala State Planning Board, 2010). Technopark is the one first established also have higher volume of activities compared to other parks. It provides direct employment to 22,500 persons and hosts 168 companies (Kerala State Planning Board, 2010). State-wise data on the export of IT and ITES are not available. Table 21 presents the trends in the export of IT and ITES from India. The table shows that the growth

of export was lower in 2008-09. The lower growth rate in export was attributed to financial crisis, which reduced the IT spending of firms in the developed countries (Financial Express, 2009c). Business Line (2009h) reports the statement of Mr Som Mittal, President of Nasscom “...factoring the impact of the global economic crisis in the second half of 2008-09, the industry is expected to grow by 16-17 per cent by March 2009”. He also stated that “India offers the best solution to manage resources and IT budgets and improve competitiveness, even in today’s difficult environment”. Note that the growth rate of value of export declined even with considerable depreciation of rupee in 2008-09. Table 22 presents the trends in the export from Thiruvananthapuram Technopark, which accounts for the lion share of IT export from Kerala¹⁶. It shows that growth rate of export, though much higher than that of India, declined in 2008-09.

Table 21: Information Technology Export from India

Year	IT Services Exports	ITES-BPO Exports	Total Software Services Exports	Growth
2000-01	5411	930	6341	60.0
2001-02	6061	1495	7556	19.2
2002-03	7100	2500	9600	27.1
2003-04	9200	3600	12800	33.3
2004-05	13100	4600	17700	38.3
2005-06	17300	6300	23600	33.3
2006-07	22900	8400	31300	32.6
2007-08R	29400	10900	40300	28.8
2008-09PR	33600	12700	46300	14.9

1. Growth rate is in percentage and export is in US\$ million.
2. R Revised, PR Partially revised.

Source:RBI (2010c).

¹⁶ According to an answer to a question in the state legislature, reported in the Business Line (2008c), IT export from Kerala in 2007-08 was of Rs. 1578 crores and Technopark accounted for 76.6% of this export.

Table 22: IT Exports from Technopark, Trivandrum

Year	Export (in Rs Crore)	Growth (in %)
2004-05	270	
2005-06	452	67.4
2006-07	750	65.9
2007-08	1201	60.1
2008-09	1803	50.1

Source: STPI (2009, 2008, 2007).

4.4 Tourism

Tourism, both foreign and domestic is an important stimulant of a number of economic activities in the state, such as trade, transport, and hotels and restaurants. A large number of people, directly and indirectly, depending on tourism for making their livelihood. In 2007-08, tourism generated a revenue of Rs. 13130 crores, which include a foreign exchange earning of Rs.3066.52 crores (Kerala State Planning Board, 2010). Financial crisis and the consequent recession could reduce the inflow of tourism, both domestic and foreign. Developed countries account for a larger share of foreign tourists inflow to Kerala. For instance, in 2008 UK, France, Germany and USA together accounted 47% of the foreign tourist visited Kerala (Department of Tourism, Government of Kerala). The huge income loss to the consumers of the developed countries due the meltdown of the financial market and recession and the bleak prospects of the economy may induce many either to cancel or postpone their travel. As a larger share of the domestic tourists to Kerala belong to industries such as IT, Finance, and other high income generating sectors, recession in these sectors could negatively affect the flow of domestic tourism. Table 23 and Table 24 respectively presents the trends in the flow of foreign and domestic tourist to Kerala.

Table 23: Foreign Tourists Arrival

Year	India (in No.)	Growth (in %)	Kerala (in No.)	Growth (in %)	Share of Kerala(in %)
2004	3457477	26.8	345546	17.3	10.0
2005	3915324	13.2	346499	0.3	8.9
2006	4429915	13.1	428534	23.7	9.7
2007	5081504	14.3	515808	20.4	10.4
2008	5282603	4.0	598929	16.1	11.2
2009	5108579	-3.3	548737	-8.4	10.7

Source: Kerala State Planning Board (2010) and Ministry of Tourism (2010)

Table 24: Flow of Domestic Tourist to Kerala

Year	Number	Growth (in %)
2004	5972182	1.72
2005	5946423	-0.43
2006	6271724	5.47
2007	6642941	5.92
2008	7591250	14.28
2009	7789378	2.61

Source: Kerala State Planning Board (2010). Figures for 2009 are obtained from Department of Tourism, Government of Kerala.

In 2008-09, foreign tourist's arrival declined by -8.4% and this decline is severe than that of India as a whole. In the case of flow of domestic tourists, there was a steep decline in the growth rate in 2008-09. On the recession in the tourism sector Ministry of Tourism (2010, p.7) in its annual report states that "Due to global slowdown, terrorist activities, H1N1 influenza pandemic, etc., growth rate in foreign tourists' arrival (FTAs) during 2009 fell by 3.3 per cent." Definitely, this decline in the flow of tourists must have direct negative effect on a number of sectors in the state such as hotels and restaurants, trade and transport.

This can also indirectly impact other sectors of the economy and state's tax revenue.

5 Concluding Remarks

This paper made an attempt to understand the impact of the global financial crisis and the subsequent global economic crisis on Kerala economy. Kerala is considered to be highly vulnerable to a crisis like this because of its increased openness to outside world. The study examined the behaviour of four channels of transmission, relevant in the context of Kerala, namely foreign remittances, credit availability, export, and foreign tourist arrival. In the case of export and remittances from abroad, reliable Kerala specific data are not available. Therefore, the study used all India data at a level of disaggregation more relevant to Kerala. Further, in all most all cases the latest year for which data are available is 2008-09, the year that witnessed the worst impact of the crisis. In order to infer on the impact of the crisis, the study examined the trends in export, remittances, credit availability and tourism in 2008-09 and compared with that of the previous years. It is important to keep in mind that, apart from quoting the statements of a number of individuals who actually felt the heat of the crisis, the study is not doing anything that explicitly establish causality from global financial crisis and subsequent global recession.

On foreign remittances, the paper found that there was no decline in the volume of remittances from Gulf countries. However, the growth rate in 2008-09 was well below the growth rate recorded in the previous year. The evidence on credit availability shows that there was a slight decline in the growth rate of credit in Kerala in 2008-09. However, there is no firm evidence to believe that the decline was due to the liquidity shortage or more cautious lending policy of the banks. It can also be due to the sluggish demand for credit owing to overall recession in the economy.

Export basket of the state includes plantation crops, marine products, IT and IT Enabled Services, coir and handloom products. The study looked at the performance of export of these items, particularly to the developed countries, in the year 2008-09. The study argues that there are some reasons to believe that export of coir, cashew, marine products, tea, pepper, coffee and ITES had been affected by the recession in developed countries. Tourism is the another important activity having adversely affected. The growth rate of foreign tourists registered negative growth rate of -8.4%, this decline was much higher than the decline of -3.4% registered for all India. In the case of Kerala, the flow of domestic tourist also recorded a decline in the growth rate. Needless to say, the decline in the tourists arrival can adversely affect sectors like trade, transport, hotels and restaurants.

***M. Parameswaran** is Assistant Professor at the Centre for Development Studies, Thiruvananthapuram. His research interests include International Trade, Industrial Economics and Economic Growth.*

*Email: _parameswaran@cds.ac.in,
mpeswaran@gmail.com*

A. APPENDIX

Table A.1: Region and Country-wise share of India's Merchandise Export (in %)

Countries/Regions	2005-06	2006-07	2007-08
(1) Europe	24.2	22.8	22.9
(1.1)EU Countries (27)	22.5	21.2	21.2
UK	4.9	4.4	4.1
Germany	3.5	3.1	3.1
Belgium	2.8	2.7	2.6
Italy	2.4	2.8	2.4
France	2.0	1.7	1.6
Netherlands	2.4	2.1	3.2
Spain	1.6	1.5	1.4
(2) Africa	5.3	6.7	7.1
(3) America	20.7	19.2	17.0
(3.1)North America	17.8	15.8	13.5
USA	16.8	14.9	12.7
Canada	1.0	0.9	0.8
(3.2) Latin America	2.9	3.4	3.5
(4) Asia & Asean	48.4	49.9	51.7
(4.1)East Asia	1.0	1.2	0.9
Australia	0.8	0.7	0.7
(4.2)Asean	10.1	10.0	10.1
(4.3)West Asia and North Africa	16.2	18.2	18.6
UAE	8.3	9.5	9.6
Saudi Arabia	1.8	2.0	2.3
4.4)North East Asia	15.7	15.3	16.2
Japan	2.4	2.3	2.4
(4.5)South Asia	5.4	5.1	5.9
(5)CIS & Baltics	1.2	1.2	1.1
(5.2)Other CIS Countries	1.0	1.0	0.9
(6)Unspecified Region	0.2	0.3	0.3
Total	100.0	100.0	100.0

Source: RBI (2008).

Table A.2: Performance of the Indian Economy

	2006-07				2007-08				2008-09				2009-10	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Agriculture, Forestry & Fishing	2.8	3.3	4.0	5.1	4.2	3.8	7.8	2.2	3.0	2.6	-0.8	2.6	2.3	0.9
Mining & Quarrying	7.0	6.7	8.8	10.8	0.1	3.8	4.1	4.6	4.5	3.6	4.8	1.6	7.6	9.1
Manufacturing	10.9	11.3	10.5	11.8	9.5	7.9	8.3	6.1	5.4	5.0	0.9	-1.4	3.4	8.8
Electricity, Gas & Water Supply	3.6	5.7	6.6	4.6	6.6	5.7	3.7	4.5	2.7	3.7	3.4	3.5	6.0	7.2
Construction	12.2	11.1	10.0	11.4	10.4	12.6	9.3	6.7	8.1	9.1	4.1	6.6	6.9	6.3
Trade, Hotels & Restaurant (includes transport communication)	11.3	12.9	12.4	11.7	12.3	10.3	11.0	12.9	12.2	11.4	5.7	6.1	7.8	8.2
Finance, Insurance, Real Estate & Business Services	12.6	12.9	13.6	12.6	11.9	11.7	11.2	9.8	6.7	6.2	8.0	9.1	7.7	7.4
Community, Social & Personal Services	8.6	5.8	4.3	3.9	4.4	6.8	5.4	9.1	7.9	8.6	20.3	11.8	6.6	11.9
GDP	7.7	10.3	9.3	9.6	8.8	8.5	9.0	8.5	7.9	7.5	4.7	4.1	5.8	6.5
Merchandise: Export	21.2	26.9	18.7	15.5	14.7	15.7	28.5	38.7	35.7	33.7	-9.5	-27.7	-23.6	-23.6
Merchandise: Import	20.5	23.7	21.0	12.7	19.0	20.0	35.0	44.3	35.7	44.4	7.1	-31.9	-21.8	-21.8
Invisibles: Receipts	27.3	26.4	24.9	20.9	18.1	31.3	28.6	25.3	26.5	29.8	1.8	-18.2	-0.7	-16.4
Invisibles: Payments	23.6	34.2	9.6	41.6	16.0	15.7	6.6	27.7	12.6	12.2	3.0	-28.4	11.3	0.2
Services: Receipts	33.0	26.6	22.6	19.5	16.3	22.6	28.8	12.8	19.9	30.5	5.7	-6.9	-2.9	-33.9
Services: Payments	13.5	31.8	18.1	35.0	15.7	15.1	1.8	31.1	14.3	15.4	2.6	-32.8	15.4	0.7
Private Transfers: Receipts	17.2	18.1	28.7	19.5	17.7	44.8	25.9	46.4	36.1	36.2	-4.8	-37.0	9.0	3.5
FDI into India	50.0	86.5	143.5	65.0	78.4	7.2	-21.9	101.6	46.5	62.5	-22.0	-56.8	-22.6	25.2

Notes:

- (1) The growth rates are quarter-on-quarter growth rates.
- (2) Growth rates of import, export and payments and receipts of private transfers, FDI and invisibles and services are computed using values in US\$. Source: RBI Database.

Table A.3: Growth of Kerala Economy (2000-01 to 2008-09)

	Sector	Growth Rate(in %)
1	Agriculture	0.6
2	Forestry and Logging	1.7
3	Fishing	-1.7
4	Mining and Quarrying	9.3
I	Primary	0.7
5	Manufacturing	3.8
6	Construction	13.2
7	Electricity, Gas and Water Supply	5.8
II	Secondary	9.6
8	Transport, Storage and Communication	12.8
9	Trade, Hotels and Restaurants	7.3
10	Banking and Insurance	9.8
11	Real Estate, Ownership of Dwellings and Business Services	9.8
12	Public Administration	6.4
13	Other Services	6.2
III	Tertiary	8.5
	Net State Domestic Product (NSDP)	7.5

Note: Growth rates are average log differences.

Source: Growth rates are computed using data obtained from CSO.

Table A.4: Sectoral Shares of NSDP

	Sector	Share (in %)
1	Agriculture	13.5
2	Forestry and Logging	1.5
3	Fishing	1.5
4	Mining and Quarrying	0.4
I	Primary	16.9
5	Manufacturing	7.2
6	Construction	13.8
7	Electricity, Gas and Water Supply	1.1
II	Secondary	22.1
8	Transport, Storage and Communication	10.5
9	Trade, Hotels and Restaurants	23.0
10	Banking and Insurance	6.0
11	Real Estate, Ownership of Dwellings and Business Services	7.9
12	Public Administration	4.3
13	Other Services	9.3
III	Tertiary	60.9

Note: Average share for the period 2000-01 to 2008-09. Source: NSDP figures are obtained from CSO.

Table A.5: Marine Export from India

Year	India		Kerala	
	Quantity	Value	Quantity	Value
2004-05	461329	6647	87378	1158
2005-06	512164	7245	97311	1258
2006-07	612641	8364	108616	1524
2007-08	541701	7621	100318	1431
2008-09	602835	8608	101000	1570

Notes: (1). Quantity in metric tonnes and value is in Rs. crores.

Source: Kerala Economic Review, 2009.

Table A.6: Export of Tea from India

Year	North India		South India		All India	
	Qty	Value	Qty	Value	Qty	Value
2004-2005	101.5	1228.7	104.3	696.0	205.8	1924.7
2005-2006	100.5	1160.1	96.1	633.4	196.7	1793.6
2006-2007	100.9	1223.2	117.3	822.5	218.2	2045.7
2007-2008	110.2	1291.2	75.2	597.5	185.3	1888.7
2008-2009	106.3	1561.0	84.3	820.8	190.6	2381.8

Note: Quantity in Million Kilogrammes and value is in Rs.crores.

Source: Tea Board.

Table A.7: Area and Production of Spices in Kerala in 2007-08

	Item	Area	Production
1	Pepper	175679 (11.2)	41952
2	Ginger	8865 (0.6)	31762
3	Cardamom	39763 (2.5)	7031
4	Turmeric	3155 (0.2)	7434
5	Chilly	1398 (0.1)	1340

Note: (1) Production in tonnes and area in hectares.

(2) Parenthesis provides the share in the total area under cultivation.

Source: Kerala State Planning Board (2010).

Table A.8: Growth of Coffee Production in India

Year	Arabica	Robusta	Total
2006-07	6.1	4.6	5.1
2007-08	-7.2	-10	-9
2008-09	-14.1	7.8	0.1

Note: The figures are growth of quantity in %.

Source: Coffee Board (2009b).

References

- Balakrishnan, P. (1999): "Land Reforms and the Question of Food in Kerala," *Economic and Political Weekly*, 34(21), 1272–1280.
- Basheer, K. P. M. (2008): "Ripples from Wall Street hit Kochi," *The Hindu Business Line*, October 31, 2008., Available from the URL: <http://www.thehindu.com/2008/10/31/stories/2008103161901000.htm>, accessed on July 13, 2010.
- Basu, K. (2009): "A Simple Model of the Financial Crisis of 2007-9 with implications for the Design of a Stimulus Package," Working Paper 241, Bureau for Research and Economic Analysis of Development (BREAD).
- Brunnermeier, M. K. (2009): "Deciphering the Liquidity and Credit Crunch 2007-2008," *Journal of Economic Perspective*, 23(1), 77–100.
- Business Line (2007): "Rupee Effect: Coffee Exporters Stop Signing new Orders," *The Hindu Business Line*, May 16, 2007., Available from the URL: <http://www.thehindubusinessline.com/2007/05/16/stories/2007051605041200.htm>, accessed on May 26, 2010.
- (2008a): "Cair Exports Drop in Oct on Global Slump," *The Hindu Business Line*, December 23, 2008., Available from the URL: <http://www.thehindubusinessline.com/2008/12/23/stories/2008122350481500.htm>, accessed on July 13, 2010.
- (2008b): "Handloom gets 8-digit Commodity Classification," *The Hindu Business Line*, December 01, 2008., Available from the URL: <http://www.thehindubusinessline.com/2008/12/01/stories/2008120150381500.htm>, accessed on May 27, 2010.
- (2008c): "Kerala IT Exports Touch Rs. 1,568 cr," *The Hindu Business Line*, June 24, 2008., Available from the URL: <http://www.thehindubusinessline.com/2008/06/24/stories/2008062452652100.htm>, accessed on June 04, 2010.
- (2008d): "Strengthening Rupee Weakens Marine Export Sector," *The Hindu Business Line*, February 6, 2008., Available from the URL: <http://www.thehindubusinessline.com/2008/02/06/stories/2008020650441300.htm>, accessed on April 22, 2010.

- (2008e): “Tea Exports Decline,” *The Hindu Business Line*, August 1, 2008., Available from the URL: <http://www.thehindubusinessline.com/2008/08/01/stories/2008080150781300.htm>, accessed on May 25, 2010.
- (2008f): “Tea Exports Slacken as Buyers Cancel Orders,” *The Hindu Business Line* on December 10, 2008., Available from the URL: <http://www.thehindubusinessline.com/2008/12/10/stories/2008121051081100.htm>, accessed on May 25, 2010.
- (2009a): “Arabica Output seen at 14-year Low,” *The Hindu Business Line*, May 1, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/05/01/stories/2009050150551200.htm>, accessed on May 26, 2010.
- (2009b): “Coffee Exports Decline on Low Demand,” *The Hindu Business Line*, May 17, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/04/17/stories/2009041751071600.htm>, accessed on May 26, 2010.
- (2009c): “Coffee Exports Turn Bitter on Slowdown,” *The Hindu Business Line*, on May 11, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/05/11/stories/2009051150530500.htm>, accessed on May 26, 2010.
- (2009d): “Fall in Export may hit Marine Insurance Premium Growth,” *The Hindu Business Line*, January 1, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/01/19/stories/2009011950611200.htm>, accessed on June 30, 2010.
- (2009e): “High Coffee Prices Drive away Traditional buyers,” *The Hindu Business Line*, April 02, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/04/02/stories/2009040250951600.htm>, accessed on May 26, 2010.
- (2009f): “Instant Coffee Exports Dip on Poor Russian Demand,” *The Hindu Business Line*, April 04, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/04/04/stories/2009040450360900.htm>, accessed on May 26, 2010.
- (2009g): “Marine Products Exports up 11%,” *The Hindu Business Line*, July 09, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/07/09/stories/2009070951241600.htm>, accessed on August 20, 2009.

- (2009h): “Slowdown Forces Nasscom to Lower Export Growth target this Fiscal,” *The Hindu Business Line*, February 05, 2009, Available from the URL: <http://www.thehindubusinessline.com/2009/02/05/stories/2009020552220100.htm>, accessed on June 04, 2010.
- (2009i): “Weak Rupee Boosts Coffee Exports’ Unit Value,” *The Hindu Business Line*, June 19, 2009, Available from the URL: <http://www.thehindubusinessline.com/2009/06/19/stories/2009061951541600.htm>, accessed on May 26, 2010.
- (2010): “US to Continue Dumping Duty on Indian Shrimps,” *The Hindu Business Line*, May 17, 2010., Available from the URL: <http://www.thehindubusinessline.com/2010/05/17/stories/2010051750441200.htm>, accessed on April 16, 2010.
- CDS (2009): “Report on the Global Financial Crisis and Kerala Economy: Impact and Mitigation Measures,” Report submitted by Centre for Development Studies (CDS) to Government of Kerala on the probable impact of the financial Crisis on Kerala Economy., Available from the URL: www.cds.edu.
- Coffee Board (2009a): “Database on Coffee: May/July 2009,” Published by the Economic & Market Intelligence Unit, Coffee Board, Bangalore, India, Obtained from the URL:www.indiacoffee.org.
- (2009b): “Database on Coffee: September/November 2009,” Published by the Economic & Market Intelligence Unit, Coffee Board, Bangalore, India., Obtained from the URL: www.indiacoffee.org.
- Coval, J., J. Jurek, and E. Stafford (2009): “The Economics of Structured Finance,” *Journal of Economic Perspective*, 23(1), 3–25.
- Crotty, J. (2008): “Structural Causes of the Global Financial Crisis: A Critical Assessment of the New Financial Architecture,” Working Paper 180, Political Economy Research Institute, University of Massachusetts.
- (2009): “Structural Causes of the Global Financial Crisis: A Critical Assessment of the New Financial Architecture,” *Cambridge Journal of Economics*, 33(4), 563–580.

- Financial Express (2009a): "Coffee Exports Dip 19% on High Bean Prices," *The Financial Express*, September 03, 2009., Available from the URL: <http://www.financialexpress.com/printer/news/510404/>, accessed on May 29, 2010.
- (2009b): "Coffee Exports Slump by 25% in 2009," *The Financial Express*, November 02, 2009., Available from the URL: <http://www.financialexpress.com/printer/news/536265/>, accessed on May 29, 2010.
- (2009c): "Nasscom cuts down IT-BPO Export Growth Rate," *The Financial Express* on February 05, 2009., Available from the URL: <http://www.financialexpress.com/printer/news/419149/>, accessed on June 04, 2010.
- Friedman, J., and N. Schady (2009): "How Many More Infants Are Likely to Die in Africa as a Result of the Global Financial Crisis?," Working Paper 5023, The World Bank.
- Government of India (2010): *Economic Survey 2009-10*. Oxford University Press, New Delhi.
- Harilal, K. N., and K. J. Joseph (2000): "Stagnation and Revival of Kerala Economy an Open Economy Perspective," Working Paper 305, Centre for Development Studies. Available from the URL: www.cds.edu.
- IMF (2009): *World Economic Outlook*, World Economic and Financial Surveys. International Monetary Fund.
- (2010): *World Economic Outlook April 2010: Rebalancing Growth*. International Monetary Fund.
- Irudaya Rajan, S and D. Narayana. (2010): "The Financial Crisis in the Gulf and its Impact on South Asian Migrant Workers," Working Paper 436, Centre for Development Studies, Available from the URL: www.cds.edu.
- Isaac, T. T. M., R. Reddy, and N. Duaury (1992): "Balance of Trade, Remittances and Net capital flows: An Analysis of Economic Development in Kerala since Independence," Working Paper 250, Centre for Development Studies. Available from the URL: www.cds.edu.

- Joshi, S. (2008): "Auto Industry Faces Slowdown," *The Hindu*, November 8, 2008., Available from the URL: <http://www.thehindu.com/2008/11/08/stories/2008110855931800.htm>, accessed on July 08, 2010.
- Kannan, K. P. (2009): "A First Assessment of the Impact of The Global Economic Crisis on India: The Continuing Challenge of Employment," *The Indian Journal of Labour Economics*, 52(3), 349–373.
- Kannan, K. P., and K. S. Hari (2002): "Kerala's Gulf Connection: Emigration, Remittances and their Macroeconomic Impact - 1972-2000," Working Paper 328, Centre for Development Studies. Available from the URL: www.cds.edu.
- Kerala State Planning Board (2010): *Economic Review 2009*. Kerala State Planning Board, Thiruvananthapuram.
- Kumar, K. G. (2010): "A Year for Coir," *The Hindu Business Line*, January 13, 2010., Available from the URL: <http://www.thehindubusinessline.com/2010/01/13/stories/2010011352781900.htm>, accessed on July 13, 2010.
- Lin, J. Y. (2008): "The Impact of the Financial Crisis on Developing Countries," Available from the URL: http://crisistalk.worldbank.org/files/Oct_31_JustinLin_KDI_remarks.pdf, accessed on December 2, 2009.
- Ministry of Tourism (2010): *Annual Report*. Ministry of Tourism, Government of India, New Delhi.
- Mukherjee, C. (2009): "Recent Trends in Indian GDP and Its Components: An Exploratory Analysis," *Economic and Political Weekly*, 44(41 and 42), 13–15.
- Nair, G. K. (2009a): "Recession Hits Cashew Exports," *The Hindu Business Line*, August 22, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/08/22/stories/2009082250971600.htm>, accessed on July 06, 2010.
- Nair, K. N., and V. Menon (2007): "Distress Debt and Suicides among Agrarian Households: Findings from three Village Studies in Kerala," Working Paper 397, Centre for Development Studies, Trivandrum.

- Nair, K. N., A. Paul, and V. Menon (2007): "Livelihood Risks and Coping Strategies: A Case Study in the Agrarian Village of Cherumad, Kerala," Working Paper 394, Centre for Development Studies, Trivandrum.
- Nair, P. (2009b): "Banks see Slowdown in Export Credit," *The Hindu Business Line*, February 21, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/02/21/stories/2009022151390600.htm>, accessed on July 06, 2010.
- Pillai, R. R. (2008): "Coir and Marine Exporters Fear the Worst," *The Hindu Business Line*, October 31, 2008., Available from the URL: <http://www.thehindu.com/2008/10/31/stories/2008103161871000.htm>, accessed on July 13, 2010.
- Pushpangadan, K., and M. Parameswaran (2006): "Service-led Growth of Kerala: Its Nature and Implications," in *Kerala's Economy: Crouching Tiger, Sacred Cows*, ed. by S. Mani, A. Kochar, and A. M. Kumar, pp. 66–83. D C Books, Kottayam, Kerala, India.
- Rakshit, M. (2009): "India Amidst the Global Crisis," *Economic and Political Weekly*, 44(13), 94–106.
- RBI (2008): *Macroeconomic and Monetary Developments: Mid-Term Review 2008-09*. Reserve Bank of India.
- (2009): *Macroeconomic and Monetary Developments in 2008-09*. Reserve Bank of India.
- (2010a): *Macroeconomic and Monetary Developments in 2009-10*. Reserve Bank of India.
- (2010b): *RBI Monthly Bulletin - April 2010*. chap. Remittances from Overseas Indians: Modes of Transfer, Transaction Cost and Time Taken, pp. 779–796. Reserve Bank of India.
- (2010c): *RBI Monthly Bulletin March 2010* chap. Invisibles in India's Balance of Payments: An Analysis of Trade in Services, Remittances and Income, pp. 555–593. Reserve Bank of India.
- Spices Board (2009): *Annual Report 2008-09*. Spices Board, Cochin, Kerala.

- Srinivasan, G. (2009): "Trade Finance Getting Dearer," *The Hindu Business Line*, March 03, 2009., Available from the URL: <http://www.thehindubusinessline.com/2009/03/19/stories/2009031951331700.htm>, accessed on July 06, 2010.
- STPI (2007): *Annual Report 2006-07*. Software Technology Parks of India (STPI), New Delhi.
- (2008): *Annual Report 2007-08*. Software Technology Parks of India (STPI), New Delhi.
- (2009): *Annual Report 2008-09*. Software Technology Parks of India (STPI), New Delhi.
- The Economic Times (2009): "Tea Exports up on Kenyan Shortfall," *The Economic Times*, February 20, 2009., Available from the URL: <http://economictimes.indiatimes.com/articleshow/4157973.cms?prtpage=1>, accessed on July 14, 2010.
- The Hindu (2008): "Apollo Tyres Lockout a Ruse, says Union," *The Hindu*, December 11, 2008., Available from the URL: <http://www.thehindu.com/2008/12/11/stories/2008121158420300.htm>, accessed on July 08, 2010.
- Vinayak, A. J. (2008): "Unit Value Realisation of Cashew Export Increases," *The Hindu Business Line*, August 1, 2008., Available from the URL: <http://www.thehindubusinessline.com/2008/08/01/stories/2008080150821300.htm>, accessed on July 14, 2008.
- Weller, C. E., and A. Helburn (2009): "Public Policy Options to Build Wealth for Americas Middle Class," Working Paper 210, Political Economy Research Institute, University of Massachusetts.

PUBLICATIONS

For information on all publications, please visit the CDS Website: www.cds.edu. The Working Paper Series was initiated in 1971. Working Papers from 279 can be downloaded from the site.

The Working Papers published after April 2007 are listed below:

- W.P. 440 P.L. BEENA**, *Financing Pattern of Indian Corporate Sector under Liberalisation: With Focus on Acquiring Firms Abroad*. January 2011.
- W.P. 439 RAJEEV SHARMA** *Diversification in Rural Livelihood Strategies: A Macro-Level Evidence from Jammu and Kashmir*, December 2010.
- W.P. 438 APARNA NAIR**, *The indifferent many and the hostile few: An Assessment of Smallpox Vaccination in the 'Model Native State' of Travancore 1804-1941*. November 2010.
- W.P. 437 VINOJ ABRAHAM**, *The Effect of Information Technology on Wage Inequality: Evidence from Indian Manufacturing Sector*. September 2010.
- W.P. 436 S. IRUDAYA RAJAN, D. NARAYANA**, *The Financial Crisis in the Gulf and its Impact on South Asian Migrant Workers*. August 2010.
- W.P. 435 ANUP KUMAR BHANDARI**, *Total Factor Productivity Growth and its Decomposition: An Assessment of the Indian Banking Sector in the True Liberalised Era*. August 2010
- W.P. 434 BEENA SARASWATHY**, *Cross-Border Mergers and Acquisitions in India: Extent, Nature and Structure*. July 2010
- W.P. 433 VIJAY KORRA**, *Nature and Characteristics of Seasonal Labour Migration: A Case Study in Mahabubnagar District of Andhra Pradesh*. July 2010
- W.P. 432 K.C. ZACHARIAH S. IRUDAYA RAJAN**, *Impact of the Global Recession on Migration and Remittances in Kerala:*

New Evidences from the Return Migration Survey (RMS) 2009. June 2010.

W.P. 431 GARGI SANATI, *Integration of India's Financial Markets on the Domestic and International Fronts: An Empirical Analysis of the Post-Liberalisation Period*, June 2010.

W.P. 430 SUNIL MANI, *Has China and India Become more Innovative Since the onset of Reforms in the Two Countries?* May 2010.

W.P. 429 T. R. DILIP, *School Educational Attainment in Kerala: Trends And Differentials*. April 2010.

W.P. 428 SUNIL MANI, *The Flight from Defence to Civilian Space: Evolution of the Sectoral System of Innovation of India's Aerospace Industry*. April 2010.

W.P. 427 J. DEVIKA, V. J. VARGHESE, *To Survive or to Flourish? Minority Rights and Syrian Christian Community Assertions in 20th Century Travancore/Kerala*. April 2010.

W.P. 426 ANUP KUMAR BHANDARI, *Global Crisis, Environmental Volatility and Expansion of the Indian Leather Industry*. March 2010.

W.P. 425 P. L. BEENA, HRUSHIKESH MALLICK, *Exchange Rate and Export Behaviour of Indian Textiles & Clothing Sector: An Enquiry for Major Destination Countries*. March 2010.

W.P. 424 K. C. ZACHARIAH, S. IRUDAYA RAJAN, *Migration Monitoring Study, 2008 Emigration and Remittances in the Context of Surge in Oil Prices*. March 2010.

W.P. 423 VIJAYAMOHANAN PILLAI N, *Loss of Load Probability of a Power System: Kerala*. February 2010.

W.P. 422 JAYASEKHAR S, C. NALIN KUMAR, *Compliance, Competitiveness and Market Access: A Study on Indian Seafood Industry*. February 2010.

- W.P. 421 S. IRUDAYA RAJAN, V.J. VARGHESE, M.S. JAYAKUMAR** *Overseas Recruitment in India: Structures, Practices and Remedies.* December 2009.
- W.P. 420 V.J. VARGHESE,** *Land, Labour and Migrations: Understanding Kerala's Economic Modernity,* December 2009.
- W.P. 419 R. MOHAN, D. SHYJAN** *Tax Devolution and Grant Distribution to States in India Analysis and Roadmap for Alternatives,* December 2009.
- W.P. 418 WILLIAM JOE & U. S. MISHRA** *Household Out-of-Pocket Healthcare Expenditure in India Levels, Patterns and Policy Concerns,* October 2009.
- W.P. 417 NEETHI P** *Globalisation Lived Locally: New Forms of Control, Conflict and Response Among Labour in Kerala, Examined Through a Labour Geography Lens.* October 2009.
- W.P. 416 SUNIL MANI** *High skilled migration from India, An analysis of its economic implications,* September 2009.
- W.P. 415 SUNIL MANI** *Has India Become more Innovative Since 1991? Analysis of the Evidence and Some Disquieting Features,* September 2009.
- W.P. 414 WILLIAM JOE, PRIYAJIT SAMAIYAR, U. S. MISHRA** *Migration and Urban Poverty in India Some Preliminary Observations,* September 2009.
- W.P. 413 K. N. NAIR, T.P. SREEDHARAN, M. ANOOPKUMAR,** *A Study of National Rural Employment Guarantee Programme in Three Grama Panchayats of Kasaragod District,* August 2009
- W.P. 412 B.S. SURAN, D. NARAYANA,** *The Deluge of Debt: Understanding the Financial Needs of Poor Households.* July 2009
- W.P. 411 K. NAVANEETHAM, M. KABIR, C.S. KRISHNAKUMAR** *Morbidity Patterns in Kerala: Levels and Determinants.* April 2009.
- W.P. 410 ARINDAM BANERJEE,** *Peasant Classes, Farm Incomes and Rural Indebtedness: An Analysis of Household Production Data from two States.* March 2009.

- W.P. 409** **SUNIL MANI**, *The Growth of Knowledge-intensive Entrepreneurship in India, 1991-2007 Analysis of its Evidence and the Facilitating Factors*. February, 2009
- W.P. 408** **M. S. HARILAL**, *Home to Market: Responses, Resurgence and Transformation of Ayurveda from 1830s to 1920*. November 2008
- W.P. 407** **HRUSHIKESH MALLICK**, *Do Remittances Impact the Economy ? Some Empirical Evidences from a Developing Economy*. October 2008.
- W.P. 406** **K.C.ZACHARIAH, S.IRUDAYA RAJAN**, *Costs of Basic Services in Kerala, 2007, Education, Health, Childbirth and Finance (Loans)* September 2008.
- W.P. 405** **SUNIL MANI** *Financing of industrial innovations in India How effective are tax incentives for R&D?* August 2008.
- W.P. 404** **VINOJ ABRAHAM** *Employment Growth in Rural India: Distress Driven?* August 2008.
- W.P. 403** **HRUSHIKESH MALLICK**, *Government Spending, Trade Openness and Economic Growth in India: A Time Series Analysis*. July 2008.
- W.P. 402** **K. PUSHPANGADAN, G. MURUGAN**, *Dynamics of Rural Water Supply in Coastal Kerala: A Sustainable Development View*, June 2008
- W.P. 401** **K. K. SUBRAHMANIAN, SYAMPRASAD**, *Rising Inequality With High Growth Isn't this Trend Worrisome? Analysis of Kerala Experience*, June 2008
- W.P. 400** **T.R. DILIP**, *Role of Private Hospitals in Kerala: An Exploration*, June 2008
- W.P. 399** **V. DHANYA**, *Liberalisation of Tropical Commodity Market and Adding-up Problem: A Bound Test Approach*, March 2008

- W.P. 398 P. MOHANAN PILLAI, N. SHANTA,** *ICT and Employment Promotion Among Poor Women: How can we Make it Happen? Some Reflections on Kerala's Experience.* February 2008.
- W.P. 397 K.N. NAIR, VINEETHA MENON,** *Distress Debt and Suicides among Agrarian Households: Findings from three Village Studies in Kerala.* December 2007
- W.P. 396 K.N. NAIR, C.P. VINOD, VINEETHA MENON,** *Agrarian Distress and Livelihood Strategies: A Study in Pulpalli Panchayat, Wayanad District, Kerala* December 2007
- W.P. 395 K.C. ZACHARIAH, S. IRUDAYA RAJAN,** *Migration, Remittances And Employment Short-term Trends and Long-term Implications.* December 2007
- W.P. 394 K.N. NAIR, ANTONY TO PAUL, VINEETHA MENON,** *Livelihood Risks and Coping strategies: A Case Study in the Agrarian Village of Cherumad, Kerala.* November 2007
- W.P. 393 S. IRUDAYA RAJAN, U.S. MISHRA,** *Managing Migration in the Philippines: Lessons for India.* November 2007.
- W.P. 392 K.N. NAIR, R. RAMAKUMAR** *Agrarian Distress and Rural Livelihoods, a Study in Upputhara Panchayat Idukki District, Kerala.* November 2007.
- W.P. 391 PULAPRE BALAKRISHNAN,** *Visible hand: Public policy and economic growth in the Nehru era.* November 2007.
- W.P. 390 SUNIL MANI,** *The Growth Performance of India's Telecommunications Services Industry, 1991-2006 Can it Lead to the Emergence of a Domestic Manufacturing Hub?* September 2007.
- W.P. 389 K. J. JOSEPH, VINOJ ABRAHAM,** *Information Technology and Productivity: Evidence from India's Manufacturing Sector.* September 2007.
- W.P. 388 HRUSHIKESH MALLICK,** *Does Energy Consumption Fuel Economic Growth In India?* September 2007.

- W.P. 387 D. SHYJAN**, *Public Investment and Agricultural Productivity: A State-wise Analysis of Foodgrains in India*. July 2007.
- W.P. 386 J. DEVIKA**, *'A People United in Development': Developmentalism in Modern Malayalee Identity*. June 2007.
- W.P. 385 M. PARAMESWARAN**, *International Trade, R&D Spillovers and Productivity: Evidence from Indian Manufacturing Industry*. June 2007.
- W.P. 384 K. C. ZACHARIAH, S. IRUDAYA RAJAN** *Economic and Social Dynamics of Migration in Kerala, 1999-2004 Analysis of Panel Data*. May 2007.
- W.P. 383 SAIKAT SINHA ROY** *Demand and Supply Factors in the Determination of India's Disaggregated Manufactured Exports : A Simultaneous Error-Correction Approach*. May 2007.

This work is licensed under a
Creative Commons
Attribution – NonCommercial - NoDerivs 3.0 Licence.

To view a copy of the licence please see:
<http://creativecommons.org/licenses/by-nc-nd/3.0/>